

SPECTRUM

Installation Guide

Document 0675



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Preface

In this section:

[Intended Audience \[page 8\]](#)

[Text Conventions \[page 8\]](#)

[Document Feedback \[page 9\]](#)

[Online Documents \[page 9\]](#)

Intended Audience

This guide is intended for system administrators who are installing or upgrading SPECTRUM on a Windows or Solaris platform.

Text Conventions

The following text conventions are used in this document:

Element	Convention Used	Example
User-supplied parameter names	<i>Courier and Italic</i> in angle brackets <>.	The user needs to type the password in place of <password>.
On-screen text	Courier	The following line displays: path="/audit"
User-typed text	Courier	Type the following path name: C:\ABC\lib\db
Cross-references	Underlined and hypertext-blue	See Document Feedback [page 9] .
References to SPECTRUM documents (title and number)	<i>Italic</i>	<i>SPECTRUM Installation Guide (0675)</i>
The directory where you installed SPECTRUM	<\$SPECROOT>	Navigate to: <\$SPECROOT>/app-defaults

Element	Convention Used	Example
Solaris and Windows directory paths	Unless otherwise noted, directory paths are common to both operating systems, with the exception that forward slashes (/) should be used in Solaris paths, and backslashes should be used in Windows paths.	<\$SPECROOT>/app-defaults on Solaris is equivalent to <\$SPECROOT>\app-defaults on Windows.

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Thank you for helping us improve our documentation.

Online Documents

SPECTRUM documents are available online at:

<http://www.aprisma.com/manuals>

Check this site for the latest updates and additions.

Getting Started

This guide contains prerequisites, instructions, troubleshooting tips, and reference information related to SPECTRUM installation. Refer to the table below to determine where to begin the installation process and how to proceed from there.

In this section:

[Installation Process Tasks \[page 10\]](#)

Installation Process Tasks

The table below lists the common tasks for installing SPECTRUM. Use this as a guide for determining how to proceed for your specific installation.

Chronology	Task	Applicable Sections
Before Installation	Check the SPECTRUM system requirements.	System Requirements [page 11]
	Optimize your operating environment for best performance.	Optimizing Your Operating Environment for SPECTRUM [page 12]
	Determine the type of installation you need to perform.	Types of SPECTRUM Installations [page 18]
	Complete the installation prerequisites.	Installing on Solaris [page 22] Installing on Windows [page 32]
During Installation	Run the installation software.	Running the Installation Software [page 39]
	Troubleshoot, if necessary.	Troubleshooting [page 102]
After Installation	If you are upgrading SPECTRUM, you must also upgrade your SPECTRUM models, model types, and management modules.	Upgrading SPECTRUM Models, Model Types, and Management Modules [page 84]
	Complete postinstallation procedures and configure your system.	Starting SPECTRUM and Postinstallation Configuration [page 74]

System Requirements and Recommendations

This section contains system requirements along with recommendations for configuring your operating environment—before you install SPECTRUM—for enhanced SPECTRUM performance and efficiency.

In this section:

[System Requirements \[page 11\]](#)

[Optimizing Your Operating Environment for SPECTRUM \[page 12\]](#)

[SpectroSERVER Landscape Handle Requirements \[page 14\]](#)

System Requirements

The following tables list the hardware and software required to run SPECTRUM.

Table 1: Solaris System Requirements

Component	Requirement
Operating System	Solaris 7 with CDE or Solaris 8 with CDE, and required patches (see Required Solaris Patches [page 23])
Memory (RAM)	Dependent on configuration and number of managed devices (see Table 3 [page 13])
Processor	Dependent on configuration and number of managed devices (see Table 3 [page 13])
Disk Space	Dependent on configuration and number of managed devices (see Table 3 [page 13])
Video System	24-bit color graphics system capable of 65,000 colors at 1024 x 768 pixel resolution (see Configuring a 24-Bit Color Graphics Card [page 25]) 20-inch or larger monitor
Web Browser	Solaris Netscape 4.7x (from Sun)
PDF Document Viewer	Acrobat Reader With Search 4.x or later (see Documentation CD ReadMe file)

Table 2: Windows System Requirements

Component	Requirement
Operating System	Windows NT 4.0 with Service Pack 6a or later, or Windows 2000 (service packs supported but not required)
Memory (RAM)	Dependent on configuration and number of managed devices (see Table 3 [page 13])
Processor	Dependent on configuration and number of managed devices (see Table 3 [page 13])
Disk Space	Dependent on configuration and number of managed devices (see Table 3 [page 13])
Video System	2 MB PCI bus card capable of 32-bit color at 1024 x 768 pixel resolution 20-inch or larger monitor
X server	Hummingbird Exceed 7.1.0.2 (included with SPECTRUM)
Web Browser	Internet Explorer 5.5 or 6.0, or Netscape 4.7x, 6.1, or later
PDF Document Viewer	Acrobat Reader With Search 5.x or later (see Documentation CD ReadMe file)

Optimizing Your Operating Environment for SPECTRUM

Beyond the [System Requirements \[page 11\]](#), this section explains how to configure your operating environment for optimum SPECTRUM performance and efficiency.

Due to the complexities and variables of polling frequency, device types, and the number of devices within a network, it is impossible to define all possible configurations and system requirements for all users. Aprisma recommends the configurations in [Table 3 \[page 13\]](#) as a guideline for SPECTRUM to take advantage of all system resources and run at peak efficiency. The maximum benefit is achieved from any system when all three system resources—memory, processor, and disk space—are robust enough that no one resource limits any of the others.

Consult your Aprisma support or sales representative for more help in determining the ideal configuration for your network.

Table 3: Recommended System Configurations

One Workstation Managing Fewer Than 500 Devices/Avg. 24 Ports on Each Device				
	Platform	SpectroSERVER (SS) Only	SpectroGRAPH (SG) Only	SS and SG
Memory (RAM)	Windows	512 MB	512 MB	1024 MB
	Solaris	512 MB	512 MB	1024 MB
Processor	Windows	550 MHz Pentium III	550 MHz Pentium III	550 MHz Pentium III
	Solaris	167 MHz UltraSPARC I	167 MHz UltraSPARC I	167 MHz UltraSPARC I
Disk Space^{1,2}	Windows	2 x 4 GB ³	1 x 4 GB	2 x 4 GB ³
	Solaris	2 x 4 GB ³	1 x 4 GB	2 x 4 GB ³
One Workstation Managing 500 or More Devices/Avg. 24 Ports on Each Device⁴				
	Platform	SpectroSERVER (SS) Only	SpectroGRAPH (SG) Only	SS and SG
Memory (RAM)	Windows	1024 MB	512 MB	1536 MB
	Solaris	1024 MB	512 MB	1536 MB
Processor	Windows	Xeon 733 MHz Pentium III ⁵	550 MHz Pentium III	Xeon 733 MHz Pentium III ⁵
	Solaris	360 MHz UltraSPARC II	167 MHz UltraSPARC I	360 MHz UltraSPARC II
Disk Space^{1,2}	Windows	3 x 4 GB ⁶	1 x 4 GB	3 x 4 GB ⁶
	Solaris	3 x 4 GB ⁶	1 x 4 GB	3 x 4 GB ⁶
¹Disk Drives: For optimum performance, Aprisma recommends running SPECTRUM on systems with multiple, ultrawide, 10 K-rpm, SCSI disk drives using disk striping and/or RAID (see Disk Striping and RAID [page 14]). ²Swap/Virtual Memory: Set the amount of swap space/virtual memory to at least 2 GB. ³Two-Disk Set: Disk 1=OS+swap space/virtual memory; Disk 2=SS+SG+DDM (Distributed Data Manager). ⁴For 1,000 or more managed devices, a sizing is required to determine an accurate system configuration. Contact your Aprisma support or sales representative for details. ⁵Xeon vs. P4: Aprisma tests show that a 1.4 GHz Pentium 4 (P4) SpectroSERVER has less management capacity than a 550 MHz Pentium III Xeon SpectroSERVER unless the P4 has 512 K L2 cache. You may, however, use a P4-based workstation for your SpectroGRAPH without compromising performance. ⁶Three-Disk Set: Disk 1=OS+swap space/virtual memory; 2-Disk Stripe Set=SS+SG+DDM.				

Disk Striping and RAID

For optimum performance, Aprisma recommends running SPECTRUM on systems with multiple, ultrawide, 10 K-rpm, SCSI disk drives using disk striping and/or RAID (redundant array of independent disks) technologies. Disk striping is a technique for spreading data over multiple disk drives. RAID is a disk drive system that employs two or more drives in combination for fault tolerance and performance improvement. For a more complete discussion of disk striping and RAID, see the white paper, [Techniques for Optimizing SPECTRUM Performance](#).

Installing SpectroSERVER on Its Own Workstation

Although the latest processors enable SPECTRUM to manage more devices and do more work on a single workstation, Aprisma recommends that SpectroSERVER be installed on a dedicated workstation. To ensure optimum performance, no other applications should be installed on this workstation.

If you choose to install SpectroSERVER on a workstation with other applications (including SpectroGRAPH), memory must be sufficient to handle the increased load, or the system will be saturated at a lower CPU utilization than would normally be considered a healthy maximum (approximately 80 percent). Similarly, high-speed disk input/output is required to handle these loads.

SpectroSERVER Landscape Handle Requirements

All SpectroSERVER landscape handles must be divisible by 4 and be in the range of 4 to 16,376. In a distributed SpectroSERVER environment, each landscape is identified by its landscape handle; therefore, each landscape must be unique. If you enter the landscape handle in hexadecimal format, the range is 0x100000 to 0xffe00000, where the lower 20 bits are set to zero. The encoded landscape handle appears at the top of all views associated with that landscape.

Aprisma recommends that you use a sequential numbering scheme when you establish landscape handles. At first it might seem appropriate to associate a landscape handle with a significant feature of the landscape it represents, such as a building number, or some portion of an IP subnet address. However, your entry is encoded into the most significant 14 bits of the landscape handle, and the result may not appear to relate to the landscape feature you wanted.

WARNING! You must run the `lh_set` utility *before* you run SpectroSERVER for the first time after installation. If you run SpectroSERVER before running `lh_set`, SPECTRUM assigns a default landscape handle that is the same whenever and wherever it is assigned by SPECTRUM. This creates the potential for duplicate landscape handles when multiple landscapes are configured. This means that these landscapes can never be accessed simultaneously from the same SpectroGRAPH or application.

If you start SpectroSERVER with invalid landscape handles, you must change the landscape handle of all models that are created automatically at startup. You must also update the landscape handle specified in several resource files. The landscape handle is included in the model handle of each model in the SpectroSERVER database. Changing the landscape handle at this point would require converting all model handles from the old landscape handle to the new.

Assigning Landscape Handles

Procedure

To assign a landscape handle with the `lh_set` utility:

1. Navigate to
`<$SPECROOT>/SS`
2. Run the following command:
`../SS-Tools/lh_set <landscape handle>`

The new landscape handle can be specified in either decimal or hexadecimal notation. If you use decimal notation, the `lh_set` utility converts your entry to a hexadecimal landscape handle.

Determining and Changing Landscape Handles

This section contains the procedure for changing a SPECTRUM landscape handle. You may need to complete this procedure if you are upgrading an existing SpectroSERVER database and need to change its landscape handle to meet SPECTRUM requirements

Determining the Current Landscape Handle

Procedure

1. Navigate to:
`<$SPECROOT>/SS`
2. Run the following command:
`../SS-Tools/lh_set`

Changing the Landscape Handle Of a SpectroSERVER Database With Existing Models

Procedure

1. Navigate to:
`<$SPECROOT>/SS`
2. Run the following command:
`../SS-Tools/dbpart1/converter <-ss or -ddm>
../SS-Tools/dbpart1/ConvTable <new landscape handle>`

The above two lines are a single command, typed at the command line.

Use the -ss or -ddm arguments to change landscape handles in only the SpectroSERVER database or only the DDM database. If you do not specify either one, both databases will be converted. Your new landscape handle can be specified in either decimal or hexadecimal format.

Several SPECTRUM resource files specify the landscape handle. You must manually change each of these files to ensure that all SPECTRUM applications continue to function. A mismatch of landscape handles between resource files and what the SpectroSERVER is actually using can cause problems with Archive Manager, Data Export, and the Report Generator. After changing a SpectroSERVER's landscape handle, you must also change the landscape handle in the following files:

`<$SPECROOT>/app-defaults/SDE`

<\$SPECROOT>/app-defaults/Reports

3. Navigate to:

<\$SPECROOT>/app-defaults

4. Edit the SDE and Reports files where they contain entries like the following:

*PreferredLandscapes : <*landscape handle*>

5. Enter the value that represents the updated landscape handle.

Types of SPECTRUM Installations

This section describes the types of SPECTRUM installations and the differences between them. Read these descriptions to determine which kind of installation to perform. If you have existing SPECTRUM data that you want to preserve, it is important to perform the correct type of installation.

In this section:

[First-Time Installations \[page 18\]](#)

[Upgrades \[page 18\]](#)

[Installing Additional Components \[page 20\]](#)

[Installing SPECTRUM Patches \[page 21\]](#)

[Installing SPECTRUM Advanced and Value-Added Applications \[page 21\]](#)

[Distributed and Fault-Tolerant SPECTRUM Configurations \[page 21\]](#)

First-Time Installations

A first-time installation installs SPECTRUM on a workstation where SPECTRUM has never been installed. For instructions on first-time installations, see [First-Time Installation \(Solaris\) \[page 29\]](#) or [First-Time Installation \(Windows\) \[page 36\]](#).

Upgrades

You can upgrade SPECTRUM on the same workstation (see [Upgrading in Place \[page 19\]](#)) or migrate SPECTRUM databases and other components from one workstation or directory to another and then upgrade (see [Migrating and Upgrading \[page 19\]](#)).

Upgrading From SPECTRUM 5.0.1 (With CS2 and MMS2) or Earlier

Direct upgrades to SPECTRUM 6.5.1 from releases earlier than SPECTRUM 5.0.1 (with CS4 and MMS4) are not supported. If your SPECTRUM version

is 5.0.1 (with CS2 and MMS2) or earlier, contact your Aprisma support or sales representative for information on upgrading.

Compatibility Between SPECTRUM Releases

Using new versions of SpectroGRAPH and other client applications with an older version of SpectroSERVER is not supported. You may, however, connect to a newer version of SpectroSERVER from older clients. When upgrading in a distributed SpectroSERVER environment, upgrade all SpectroSERVERs before upgrading SpectroGRAPHS to ensure connections are maintained.

Upgrading in Place

An in-place upgrade installs a new version of SPECTRUM directly over an earlier version on the same workstation, in the same directory. Additional steps are required for preserving existing SPECTRUM databases and other upgradeable components resident in the older version. For instructions on performing an in-place upgrade, see [In-Place Upgrade \(Solaris\) \[page 29\]](#) or [In-Place Upgrade \(Windows\) \[page 36\]](#).

Migrating and Upgrading

Use this procedure to migrate your existing SPECTRUM databases and other upgradeable components to a different directory or workstation, and then install SPECTRUM as part of the upgrade. This allows you to continue managing your network with the older version of SPECTRUM during the installation process. For instructions on performing a migration and upgrade, see [Migration and Upgrade \(Solaris\) \[page 30\]](#) or [Migration and Upgrade \(Windows\) \[page 37\]](#).

Important: You cannot move an installed SPECTRUM area from one workstation to another, or from one directory to another. The correct procedure is to copy or move the SPECTRUM database first and run the SPECTRUM installation program to install SPECTRUM over the relocated database.

Preserving Database Customizations

The installation program creates backup copies of existing SPECTRUM resource files in your Spectrum/app-defaults directory, preserving a record of any customizations you may have made (see [When Installation Is Complete \[page 73\]](#)).

If you have modified any .pib files (not recommended) and want to retain the changes in the post-upgrade database, create a default .p file and add your .pib file entries before beginning the installation. For further instructions, see the *SPECTRUM Extension Integration (SEI) Developer Guide (0623)*.

If you made any changes to the resource files listed in [Table 4](#), make a note of them, since these files are overwritten by any upgrade or patch installation.

Table 4: Resource Files (Overwritten)

File Name	Directory
.vnmrc	<\$SPECROOT>/SS
.vnmshrc	<\$SPECROOT>/vnmsh
.configrc	<\$SPECROOT>/SS/DDM
LocalRegFile	<\$SPECROOT>

The following resource files are preserved in the
<\$SPECROOT>/Install-Tools/SAVES/<date>/<time> directory:

- .sanmrc
- .alarmrc
- .arsgrc

Installing Additional Components

When you install a new application or management module on an existing SPECTRUM system, you are installing additional components. If you already have a license for the components, you can install them using your current SPECTRUM CD extraction key. If you purchased additional components, you should have received a new CD extraction key.

Insert your new SPECTRUM application CD and follow the installation prompts. Use the [Component Selection Screen \[page 57\]](#) to select the individual products that you wish to install.

Installing SPECTRUM Patches

When necessary, Aprisma issues software updates (“patches”) to existing versions of SPECTRUM. Patches are supplied on a CD complete with the SPECTRUM installer. Use the [Component Selection Screen \[page 57\]](#) to view the components to be installed. Each patch release includes a software release notice that gives step-by-step installation instructions, including those for relinking SPECTRUM components.

Installing SPECTRUM Advanced and Value-Added Applications

If you purchased SPECTRUM advanced and value-added applications (add-ons to the main SPECTRUM application), follow the installation instructions included with each application.

Distributed and Fault-Tolerant SPECTRUM Configurations

In addition to the basic types of installations, certain SPECTRUM configurations require special planning or a particular sequence of installation procedures.

If you are planning to install multiple SpectroSERVERs to manage different portions of your network, refer to the *Distributed SpectroSERVER (9032770)* guide before beginning your installation. Also see [SpectroSERVER Landscape Handle Requirements \[page 14\]](#).

Important: If you plan to set up a distributed SpectroSERVER configuration, perform model conversion before partitioning your database (see [Ensuring Database Compatibility With Your Upgrade \[page 85\]](#)).

SPECTRUM also supports a fault-tolerant configuration where one or more SpectroSERVERs can function as standbys for a primary SpectroSERVER, ready to take over management functions should the primary SpectroSERVER become unavailable. This configuration has special requirements and is discussed in detail in the section of the *Distributed SpectroSERVER (9032770)* guide that covers fault tolerance.

Installing on Solaris

In this section:

[Prerequisites \(Solaris\) \[page 22\]](#)

[First-Time Installation \(Solaris\) \[page 29\]](#)

[In-Place Upgrade \(Solaris\) \[page 29\]](#)

[Migration and Upgrade \(Solaris\) \[page 30\]](#)

Prerequisites (Solaris)

These prerequisites must be satisfied before you begin installing SPECTRUM on a Solaris system.

Root Privileges

You must have root privileges to perform a SPECTRUM installation on Solaris systems; therefore, before running the installation software, you must log on as root. The installation software needs root privileges to evaluate available resources and run custom installation scripts. Installing as root also ensures root privileges for the `setuid` executable so that SpectroSERVER can connect to SNMP ports. Since an initial installation generates residual files with root ownership, any upgrade installation also requires root privileges.

Fixed IP Address

The system you want to install on must have a fixed IP address. SPECTRUM cannot be installed on a workstation with more than one IP address. The target workstation can have Dynamic Host Control Protocol (DHCP) enabled as long as the DHCP server issues a static address that will never change.

CDE Style Manager Settings

To set up your desktop environment for SPECTRUM, use the CDE Style Manager to make the following selections:

In **Style Manager-Window**, select **Allow Primary Windows On Top** to allow pop-up windows to appear on top of SpectroGRAPH views.

Also in **Style Manager-Window**, select **Raise Window When Made Active** to allow a partially blocked window to appear on top when active.

In **Style Manager-Color**, click **Number of Colors**; then select **More Colors for Applications** to display all SPECTRUM colors properly (see [Configuring a 24-Bit Color Graphics Card \[page 25\]](#)).

Required Solaris Patches

The patch level of your target Solaris workstation operating system must be up-to-date. [Table 5: Solaris 7 Patches](#) and [Table 6: Solaris 8 Patches \[page 25\]](#) list the patches required for installing SPECTRUM. You can download the listed patches from the following Web site:

<http://sunsolve.Sun.COM/pub-cgi/show.pl?target=patches/patch-access>

These tables show the minimum required patch revision number (after the hyphen); the patches on the Sun Web site may be later revisions.

Table 5: Solaris 7 Patches

Patch Number	OS	Description
106144-20	Solaris 7	Elite3D AFB Graphics Patch
106145-17	Solaris 7	Creator 7 FFB Graphics Patch
106146-14	Solaris 7	M64 Graphics Patch
106147-06	Solaris 7	VIS/XIL Graphics Patch
106148-12	Solaris 7	XFB Graphics Patch
106327-08	Solaris 7	Shared Library Patch for C++
106541-12	Solaris 7	Kernel Update Patch
106944-03	Solaris 7	/kernel/fs/fifos and kernel/fs/sparc9/fifofs Patch
106950-13	Solaris 7	Linker Patch
106980-13	Solaris 7	libthread Patch
107081-22	Solaris 7	Motif 1.2.7 and 2.1.1: Runtime library patch
107359-02	Solaris 7	Patch for SPARCompiler Binary Compatibility
107448-01	Solaris 7	/usr/lib/fs/cacheefs/cachebsd patch
107450-01	Solaris 7	/platform/SUNW, Ultra-Enterprise-10000/lib/cvcd patch
107458-10	Solaris 7	sd & ssd drivers patch
107636-05	Solaris 7	X Input & Output Method Patch
107709-07	Solaris 7	libssasmp/libssagent/snmpdx/mibiisa Patch
107716-10	Solaris 7	PGX32 Graphics Patch
108376-12	OpenWindows 3.6.1	Xsun Patch
109104-04	Solaris 7	/kernel/fs/sockfs Patch

Table 6: Solaris 8 Patches

Patch Number	OS	Description
108434-01	Solaris 8	Shared Library Patch for C++
108528-02	Solaris 8	Kernel Update Patch
108576-06	Solaris 8	Expert3D IFB Graphics Patch
108604-10	Solaris 8	Elite3D AFB Graphics Patch
108605-10	Solaris 8	Creator 8 FFB Graphics Patch
108606-07	Solaris 8	M64 Graphics Patch
108652-16	X11 6.4.1	Xsun Patch
108827-01	Solaris 8	libthread Patch
108869-02	Solaris 8	snmpdx/mibiiisa/libssasnmplib Patch
108921-07	CDE 1.4	dtwm Patch
108940-10	Motif 2.1.1	Runtime library patch for Solaris 8
108991-02	Solaris 8	libc and watchmalloc Patch
109147-06	Solaris 8	linker Patch
109154-04	Solaris 8	PGX32 Graphics Patch
109472-02	Solaris 8	/kernel/drv/tcp and /kernel/drv/sparcv9/tcp Patch

Configuring a 24-Bit Color Graphics Card

Your Sun workstation must have a 24-bit color card to display SPECTRUM colors properly. If you purchase a 24-bit color card, follow the manufacturer's installation instructions as well as the configuration instructions in this section.

Checking Your 24-Bit Frame Buffer

You must first determine if your workstation has a 24-bit frame buffer. Perform the following steps to determine this:

1. Log on as root.
2. Run the following command:

```
prtconf -F
```

This command returns data on your workstation's frame buffer device. If the output contains any of the following, your workstation

has an 8-bit frame buffer and does not meet SPECTRUM requirements (you must upgrade):

```
cgfour
cgthree
cgsix
```

If the output contains any of the following, your workstation has a 24-bit frame buffer, and you can continue with [step 3](#):

```
afb
cgeight
ffb
gfxp
tcx
```

If the output contains m64, your workstation has an 8/24-bit frame buffer that is configured for 8-bit operation, and you must perform the following procedure before continuing with [step 3](#):

- As root, create an empty file named S99m64setup in the /etc/rc2.d directory; then type the following within the S99m64setup file:

```
prtcon -F | /usr/xpg4/bin/grep -q m64
if [ $? = 0 ]
then
m64config -depth 24 -res 1152 now
fi
```

- Change the file permission as follows:

```
chmod u=rwx, go=r S99m64setup
```

3. Check for the existence of the /etc/dt/config/Xservers file.

If it exists, make sure it contains the string that follows. This string must be continuous and on one line. It forces the CDE Style Manager to take full advantage of a 24-bit color card. (This string contains zeros, *not* uppercase Os.)

```
:0 Local local_uid@console root /usr/openwin/bin/Xsun :0
-nobanner -dev /dev/fb defclass TrueColor defdepth 24
```

4. Reboot the workstation.

Video card manufacturers write their card's video driver to Sun's standard and therefore, the type of card is correctly returned in the above

procedure. If the type returned for your card is different from types listed above, contact the video card manufacturer for instructions on how to configure it for 24-bit, true color capability.

Configuring 24-Bit Color Mode

If a 24-bit color card is installed, but your workstation is not in 24-bit color mode, follow these configuration instructions:

1. Log on as root.
2. Create your own, user-defined configuration directory, by running the following command:

```
mkdir -p /etc/dt/config
```

3. Navigate to the new configuration directory; then run the following command:

```
cd /etc/dt/config
```

4. Create the file `Xservers` by running the following command:

```
vi Xservers
```

5. Type the following string in the new `Xservers` file. This string must be continuous and on one line. It forces the CDE Style Manager to take full advantage of a 24-bit color card. (This string contains zeros, *not* uppercase Os.)

```
:0 Local local_uid@console root /usr/openwin/bin/Xsun :0  
-nobanner -dev /dev/fb defclass TrueColor defdepth 24
```

6. Save and exit the `Xservers` file.
7. Restart the X server.

If your workstation is still not in 24-bit color mode after following installation instructions in the video card manual, or after editing the `/etc/dt/config` file, contact your Sun Microsystems representative.

Stopping the Process Daemon (processd) [Upgrades From 5.0.1 Only]

If you upgrading from SPECTRUM version 5.0.1, the SPECTRUM process daemon, processd, must be shut down before you install the newer version.

Procedure

1. Log on as root.
2. Navigate to:
SPECTRUM/SDPM
3. Run the following command:
./processd.sh stop

Processd automatically restarts when you reboot the system after installation. If you quit the installation before it is complete you can restart processd without rebooting.

Procedure

1. Navigate to:
SPECTRUM/SDPM
2. Run the following command:
./processd.sh start

First-Time Installation (Solaris)

To install SPECTRUM on a Solaris workstation where SPECTRUM has never been installed, proceed to [Running the Installation Software \[page 39\]](#) as long as all prerequisites have been met (see [Prerequisites \(Solaris\) \[page 22\]](#)).

In-Place Upgrade (Solaris)

This section contains the procedure for installing a new version of SPECTRUM directly over an earlier version on the same Solaris workstation, in the same directory. Follow this procedure carefully to preserve your existing SPECTRUM data.

Procedure

1. Make a copy of your current SpectroSERVER database using the Online Backup utility (see [Using the Online Backup Utility \[page 109\]](#)), and save it in an area separate from the SPECTRUM installation directory.
2. Save your current SPECTRUM Events and Statistics database.
 - a. Navigate to:

```
<$SPECROOT>/SS/DDM
```
 - b. Run the following command:

```
./ddm_save dbsavefile
```
3. Move the dbsavefile to an area separate from the SPECTRUM installation directory.
4. Remove any executables, including SSdbsave, SSdbload, dbcheck, or others that you may have copied from the SS-Tools directory to other SPECTRUM locations, but do not remove the originals from the SS-Tools directory. The original executables are upgraded automatically as long as they have not been moved from SS-Tools.
5. Shut down your earlier version of SPECTRUM, as well as all SPECTRUM applications (Model Type Editor, Command Line Interface, SpectroRX, Archive Manager, and others). Also, review scheduled tasks to make sure reports, online backups, and other automated tasks do not attempt to run during installation. The installation program will not run if your database is locked, as it is whenever SpectroSERVER is running. If shutting down your SpectroSERVER is

not feasible, consult your Aprisma support or sales representative before continuing.

6. Install SPECTRUM (see [Running the Installation Software \[page 39\]](#)) after all prerequisites have been met (see [Prerequisites \(Solaris\) \[page 22\]](#)).
7. Follow the procedures in [Upgrading SPECTRUM Models, Model Types, and Management Modules \[page 84\]](#).

Migration and Upgrade (Solaris)

This section contains the procedure for moving your current SPECTRUM databases to a new location where you are upgrading to the new SPECTRUM version. Follow this procedure carefully to preserve your existing SPECTRUM data.

Procedure

1. In SpectroGRAPH, destroy any remote landscapes in your existing database.
2. In User Editor, create a SPECTRUM user model that matches the name of the owner of the directory where you will be installing the new SPECTRUM version.
3. Make a copy of your current SpectroSERVER database using the Online Backup utility (see [Using the Online Backup Utility \[page 109\]](#)).
4. Rename the database backup copy you created in [step 3](#) as:
dbsavefile.SSdb

Important: Use this exact file name.

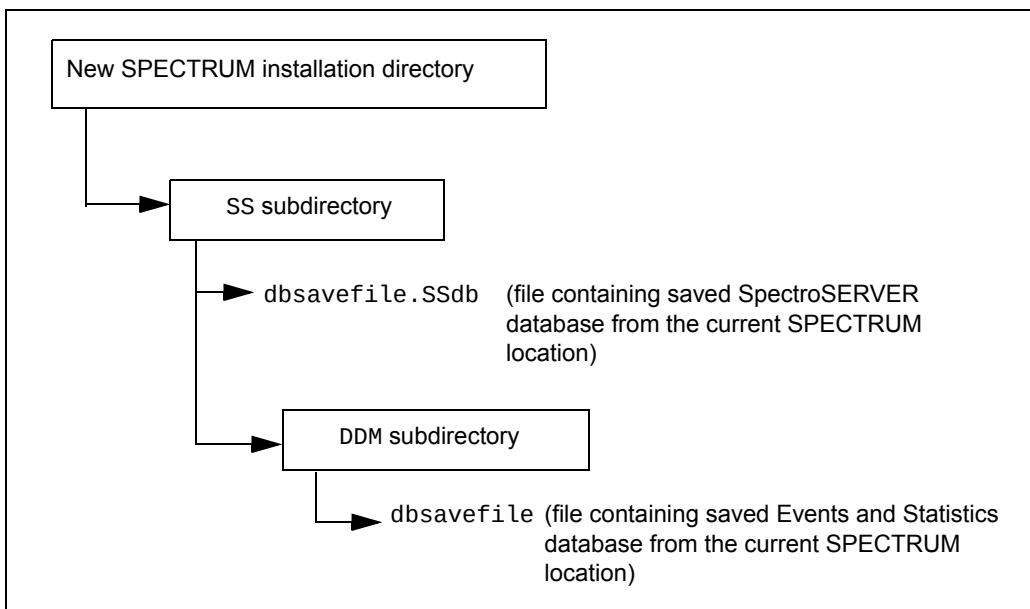
5. Save your current SPECTRUM Events and Statistics database.
 - a. Navigate to:
 <\$SPECROOT>/SS/DDM
 - b. Run the following command:
 ./ddm_save dbsavefile
6. Create a SPECTRUM installation directory (<\$SPECROOT>) where the new version of SPECTRUM will reside, along with subdirectories for the two database files. Make sure the directory owner is the same as in [step 2](#). Run the following command:

```
mkdir -p <$SPECROOT>/SS/DDM
```

Important: Do not use /opt/SPECTRUM as an installation directory name; this location is reserved for a directory that will be created automatically during the installation.

7. Copy or FTP (in binary mode) the dbsavefile.SSdb file from [step 4](#) to the new <\$SPECROOT>/SS directory.
8. Copy or FTP (in binary mode) the dbsavefile file from [step 5](#) to the new <\$SPECROOT>/SS/DDM directory. When this step is completed, the new installation directory structure should match [Figure 1 \[page 31\]](#).

Figure 1: Directory Structure—Migration and Upgrade (Solaris)



9. Install SPECTRUM (see [Running the Installation Software \[page 39\]](#)) after all prerequisites have been met (see [Prerequisites \(Solaris\) \[page 22\]](#)).
10. Follow the procedures in [Upgrading SPECTRUM Models, Model Types, and Management Modules \[page 84\]](#).

Installing on Windows

In this section:

[Prerequisites \(Windows\) \[page 32\]](#)

[First-Time Installation \(Windows\) \[page 36\]](#)

[In-Place Upgrade \(Windows\) \[page 36\]](#)

[Migration and Upgrade \(Windows\) \[page 37\]](#)

Prerequisites (Windows)

These prerequisites must be satisfied before you begin installing SPECTRUM on a Windows system.

Administrative Privileges

You must be logged in as administrator and have administrative privileges to perform a SPECTRUM installation on Windows systems. The installation software needs administrative privileges to evaluate available resources and run custom installation scripts. And, since an initial installation generates residual files with administrator ownership, any upgrade installation also requires administrative privileges.

Fixed IP Address

The system you want to install on must have a fixed IP address. SPECTRUM cannot be installed on a workstation with more than one IP address. The target workstation can have Dynamic Host Control Protocol (DHCP) enabled as long as the DHCP server issues a static address that will never change.

NTFS File System Partitioning

SPECTRUM must be installed in an NTFS file system partition. If you do not have an NTFS file system, see [Converting Your File System to NTFS \[page 34\]](#).

SNMP Services Software [Windows NT Only]

SNMP Services software must be installed on Windows NT systems before installing SPECTRUM. See [Checking Network and Security Settings \[page 33\]](#).

Creating an Emergency Repair Disk

Aprisma recommends that you create an emergency repair disk before installing SPECTRUM in the event that the SPECTRUM installation causes file corruption. The ERD can be used to restore Windows configuration files to their original condition. Aprisma also recommends that you create another ERD after the successful installation of SPECTRUM. Windows help files contain detailed instructions on creating an ERD.

Setting Color and Display Properties

Before installing SPECTRUM, make sure your Windows Display Properties settings are appropriate.

Procedure

1. Right-click an open area of the desktop and select **Properties**.
2. On the **Display Properties** dialog box **Plus!** tab [Windows NT] or **Effects** tab [Windows 2000], make sure that **Show window contents while dragging** is deselected.
3. On the **Settings** tab, set the **Color Palette** [Windows NT] or **Colors** [Windows 2000] to **True Color** [Windows NT] or **True Color (32-bit)** [Windows 2000] and the **Desktop Area** [Windows NT] or **Screen area** [Windows 2000] to a minimum of **1024 by 768 pixels**.
4. Click **OK**.

Checking Network and Security Settings

Note: The SNMP service is incorporated in the Windows 2000 operating system.

1. [Windows NT only] Open the **Control Panel** and double-click **Network**.
2. [Windows NT only] On the **Network** dialog box **Protocols** tab, ensure that **TCP/IP Protocol** is listed under **Network Protocols**.

3. [Windows NT only] On the **Services** tab, ensure that **SNMP Service** is listed under **Network Services**; then click **OK**. If the SNMP software is not listed, install it from the Windows NT disks.
4. Make sure that the user profile for the person logged on and running SPECTRUM is configured to send e-mail using the supported service provider if you plan to use e-mail for applications such as SPECTRUM Enterprise Alarm Manager.
5. Set security as desired for the directory where you are installing SPECTRUM. Any changes to the directory hierarchy security are preserved by SPECTRUM if the settings are made prior to installation.
6. Restart your system.

User Auditing

If user auditing is enabled on Windows NT platforms, every action is audited, resulting in many entries to the Windows EventLog. Aprisma recommends that NT user auditing be disabled, as it will decrease SPECTRUM system performance.

Converting Your File System to NTFS

SPECTRUM must be installed in an NTFS (versus FAT) partition. If your hard drive is formatted as a FAT partition, you must convert your Windows file system to NTFS.

Procedure

1. Start Windows Explorer.
2. Select your hard drive.
3. Select **File > Properties**.
4. On the **General** tab of the **Local Disk (X:) Properties** window, confirm whether the **File system** field displays **NTFS** or **FAT**.

If it displays **FAT**, you must convert your file system to NTFS by running the CONVERT.EXE utility located, by default, in the `<drive letter>:\Winnt\system32` directory.
5. Navigate to:
`\Winnt\system32`
6. Run the conversion utility. For example, for a hard drive designated **C**, enter the following command:

```
CONVERT C: /FS:NTFS
```

The conversion utility can be run without damaging or deleting existing data. If the hard drive has already been converted, a message to that effect display when you enter the command above.

7. Restart your workstation for the reformatting to take effect.

Stopping the Process Daemon (processd) [Upgrades From 5.0.1 Only]

If you upgrading from SPECTRUM version 5.0.1, the SPECTRUM process daemon, processd, must be shut down before you install the newer version.

Procedure

1. Log in as Administrator.
2. Open a SpectroSHELL.
3. Navigate to:

```
<$SPECROOT>/SDPM
```
4. Run the following command:

```
./processd.sh stop
```
5. Processd automatically restarts when you restart the system after installation. If you quit the installation before it is complete, you will need to restart processd. To restart processd without restarting your system, run the following command:

```
./processd.sh start
```

Uninstalling NuTCRACKER [Upgrades From 5.0.1 Only]

SPECTRUM no longer uses the NuTCRACKER product that automatically installed with SPECTRUM 5.0.1. If you performed an upgrade on a Windows workstation, you can save space and improve SPECTRUM performance by removing NuTCRACKER; however, you should first make sure that no other applications on your system will be affected by its removal.

First-Time Installation (Windows)

To install SPECTRUM on a Windows workstation where SPECTRUM has never been installed, proceed to [Running the Installation Software \[page 39\]](#) as long as all prerequisites have been met (see [Prerequisites \(Windows\) \[page 32\]](#)).

In-Place Upgrade (Windows)

This section contains the procedure for installing a new version of SPECTRUM directly over an earlier version on the same Windows workstation, in the same directory. Follow this procedure carefully to preserve your existing SPECTRUM data.

Procedure

1. Make a copy of your current SpectroSERVER database using the Online Backup utility (see [Using the Online Backup Utility \[page 109\]](#)), and save it in an area separate from the SPECTRUM installation directory.
2. Save your current SPECTRUM Events and Statistics database.
 - a. Open a command prompt.
 - b. Navigate to:
`<$SPECROOT>\SS\DDM`
 - c. Run the following command:
`.\ddm_save dbsavefile`
3. Move the dbsavefile to an area separate from the SPECTRUM installation directory.
4. Remove any executables, including SSdbsave, SSdbload, dbcheck, or others that you may have copied from the SS-Tools directory to other SPECTRUM locations, but do not remove the originals from the SS-Tools directory. The original executables are upgraded automatically as long as they have not been moved from SS-Tools.
5. Shut down your earlier version of SPECTRUM, as well as all SPECTRUM applications (Model Type Editor, Command Line Interface, SpectroRX, Archive Manager, and others). Also, review scheduled tasks to make sure reports, online backups, and other automated tasks do not attempt to run during installation. The installation

program will not run if your database is locked, as it is whenever SpectroSERVER is running. If shutting down your SpectroSERVER is not feasible, consult your Aprisma support or sales representative before continuing.

6. Install SPECTRUM (see [Running the Installation Software \[page 39\]](#)) after all prerequisites have been met (see [Prerequisites \(Windows\) \[page 32\]](#)).
7. Follow the procedures in [Upgrading SPECTRUM Models, Model Types, and Management Modules \[page 84\]](#).

Migration and Upgrade (Windows)

This section contains the procedure for moving your current SPECTRUM databases to a new location where you are upgrading to the new SPECTRUM version. Follow this procedure carefully to preserve your existing SPECTRUM data.

Procedure

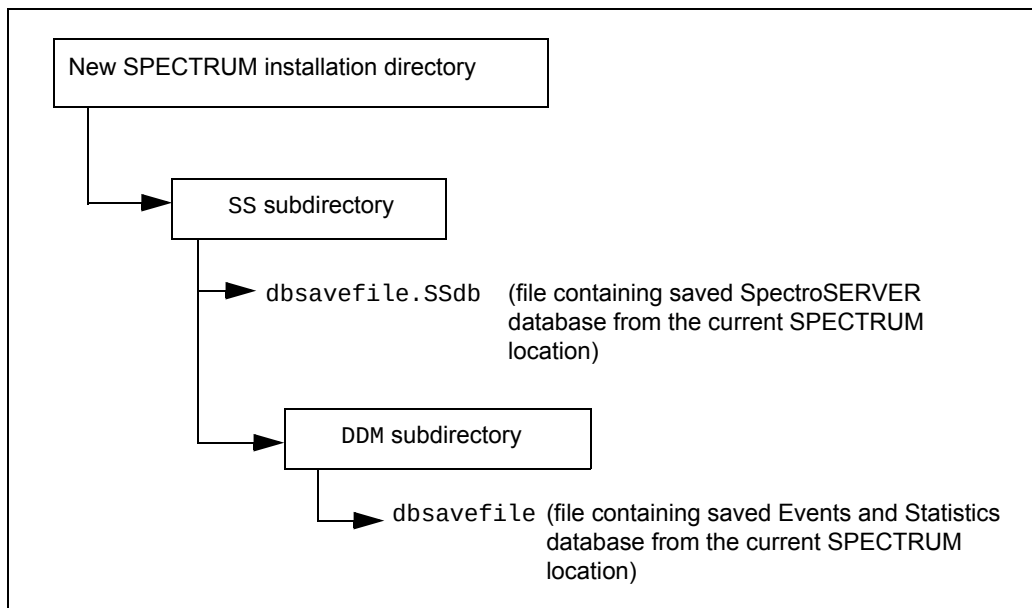
1. In SpectroGRAPH, destroy any remote landscapes in your existing database.
2. In User Editor, create a SPECTRUM user model that matches the name of the owner of the directory where you will be installing the new SPECTRUM version.
3. Make a copy of your current SpectroSERVER database using the Online Backup utility (see [Using the Online Backup Utility \[page 109\]](#)).
4. Rename the database backup copy you created in [step 3](#) as:
dbsavefile.SSdb

Important: Use this exact file name.

5. Save your current SPECTRUM Events and Statistics database.
 - a. Open a command prompt.
 - b. Navigate to:
`<$SPECROOT>\SS\DDM`
 - c. Run the following command:
`.\ddm_save dbsavefile`

6. Create a SPECTRUM installation directory (<\$SPECROOT>) where the new version of SPECTRUM will reside.
7. Within <\$SPECROOT>, create an SS subdirectory and navigate to that subdirectory.
8. Copy or FTP (in binary mode) the dbsavefile.SSdb file from [step 4](#) to the new <\$SPECROOT>\SS subdirectory.
9. In the SS subdirectory, create a DDM subdirectory.
10. Copy or FTP (in binary mode) the dbsavefile from [step 5](#) to the new <\$SPECROOT>\SS\DDM subdirectory. When this step is completed, the new installation directory structure should match [Figure 2: Directory Structure—Migration and Upgrade \(Windows\)](#).

Figure 2: Directory Structure—Migration and Upgrade (Windows)



11. Install SPECTRUM (see [Running the Installation Software \[page 39\]](#)) after all prerequisites have been met (see [Prerequisites \(Windows\) \[page 32\]](#)).
12. Follow the procedures in [Upgrading SPECTRUM Models, Model Types, and Management Modules \[page 84\]](#).

Running the Installation Software

This section explains how to use the SPECTRUM installation software on the application CD.

In this section:

[SpectroGRAPH and SpectroSERVER on Separate Workstations \[page 39\]](#)

[Starting the Installation on Solaris \[page 40\]](#)

[Starting the Installation on Windows \[page 43\]](#)

[Installation GUI Screens \[page 48\]](#)

[When Installation Is Complete \[page 73\]](#)

SpectroGRAPH and SpectroSERVER on Separate Workstations

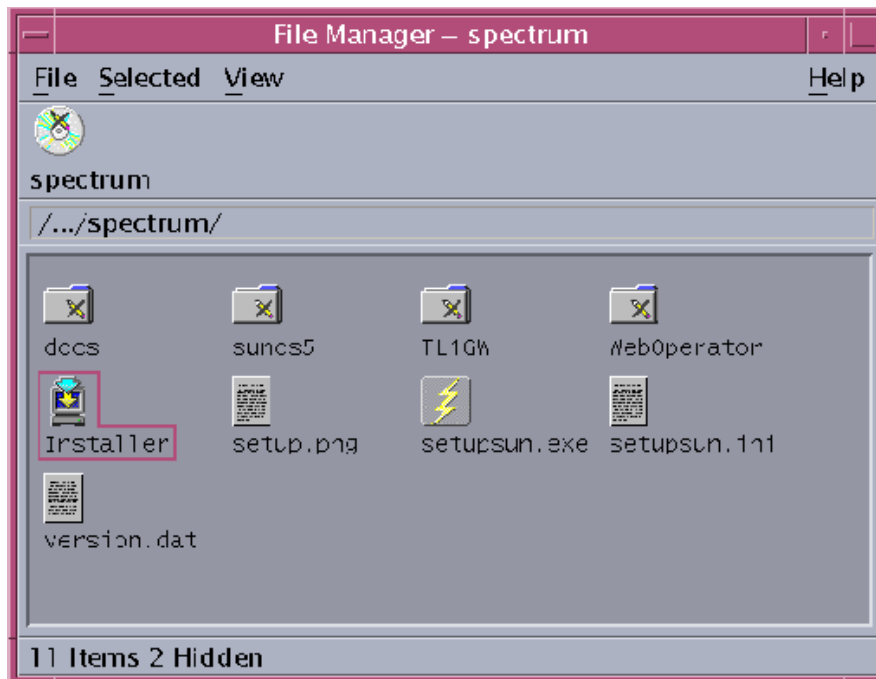
If you run SpectroSERVER on one workstation and SpectroGRAPH on one or more other workstations, you must repeat the installation process (with the appropriate components) for each workstation. Also, if you are installing individual management modules, you must install SpectroSERVER and SpectroGRAPH components on the appropriate workstations.

Starting the Installation on Solaris

Procedure

1. After completing the installation prerequisites (see [Installing on Solaris \[page 22\]](#)), insert the SPECTRUM Application CD into your CD drive. If the CD does not mount automatically, see [Mounting the SPECTRUM CD \[page 109\]](#).
2. If you are using a remote display to install SPECTRUM, set the display environment (see [Setting the Solaris Display Environment \[page 111\]](#)).
3. Do one of the following:
 - If you are installing from a local CD drive, use the Solaris **File Manager** ([Figure 3](#)) to navigate to the location of the mounted CD.
 - If you are installing from a remote CD drive, right-click to access the **Workspace Menu**, select **Files > File Manager**; then use the Solaris **File Manager** to navigate to the remote mount-point directory (/cdrom)

Figure 3: SPECTRUM in Solaris File Manager



4. Double-click the **Installer** icon.
5. In the Password prompt, type the system's root password.
6. In the **Install** screen ([Figure 4](#)), perform one or more of the following options:
 - Click the hyperlink to read the on-screen SPECTRUM Software Release Notice.
 - Click the hyperlink to install SPECTRUM.
 - Click **Close** to stop the installation process.

Figure 4: Install Screen (Solaris)



7. In the **Choose Destination Location** screen ([Figure 5](#)), do one of the following:

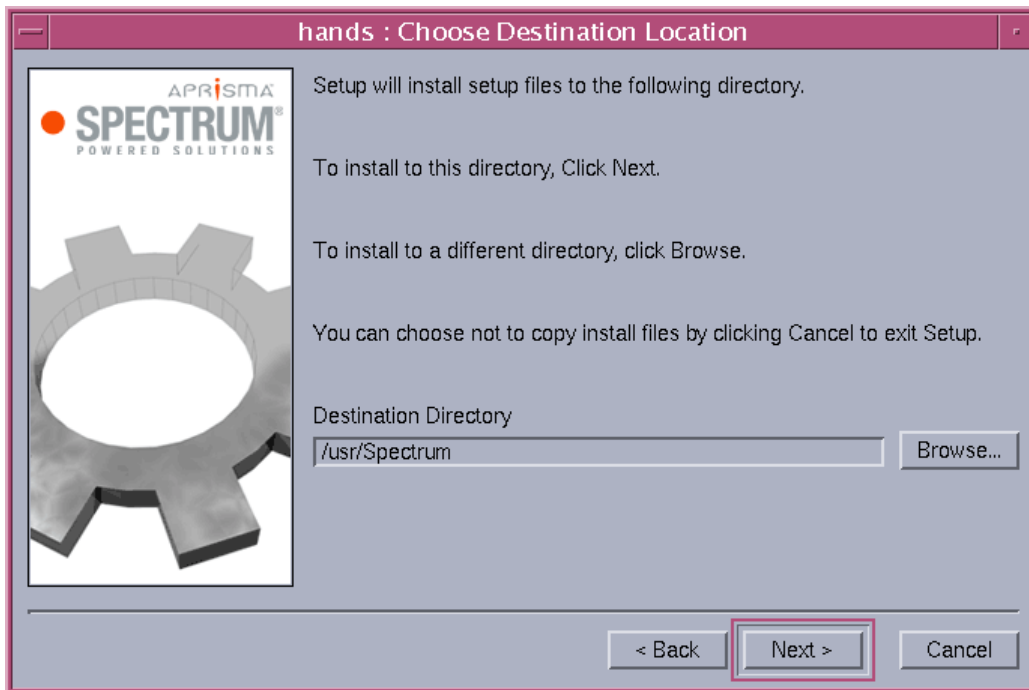
- To install SPECTRUM in the default directory, click **Next**. If you are performing an in-place upgrade, the installer detects the previous installation directory.

WARNING! Do not change the default destination to a location other than the directory that contains the SPECTRUM database you are upgrading.

Do not use /opt/SPECTRUM as an installation directory; this location and name are reserved for a directory that will be created automatically during the installation.

- To install SPECTRUM in a location other than the default directory, click **Browse** to select a new location; then click **Next**. Use this option if you are performing a database migration and upgrade.

Figure 5: Choose Destination Location Screen (Solaris)



8. See [Installation GUI Screens \[page 48\]](#) to continue the installation.

Starting the Installation on Windows

Procedure

1. After completing the installation prerequisites (see [Installing on Windows \[page 32\]](#)), insert the SPECTRUM Application CD into your CD drive.
2. Do one of the following:
 - If autorun starts and the **Install** screen ([Figure 6](#)) appears, go to [step 3](#).
 - If autorun does not start, double-click **My Computer**, right-click your CD drive; then select **AutoPlay** from the menu to display the **Install** screen.

Figure 6: Install Screen (Windows)



3. In the **Install** screen ([Figure 6 \[page 43\]](#)), perform one or more of the following options:
 - Click the hyperlink to read the on-screen SPECTRUM Software Release Notice.
 - Click the hyperlink to install SPECTRUM.
 - Click **Close** to stop the installation process.
4. In the **Welcome** screen ([Figure 7](#)), Click **Next**.

Figure 7: Welcome Screen (Windows)

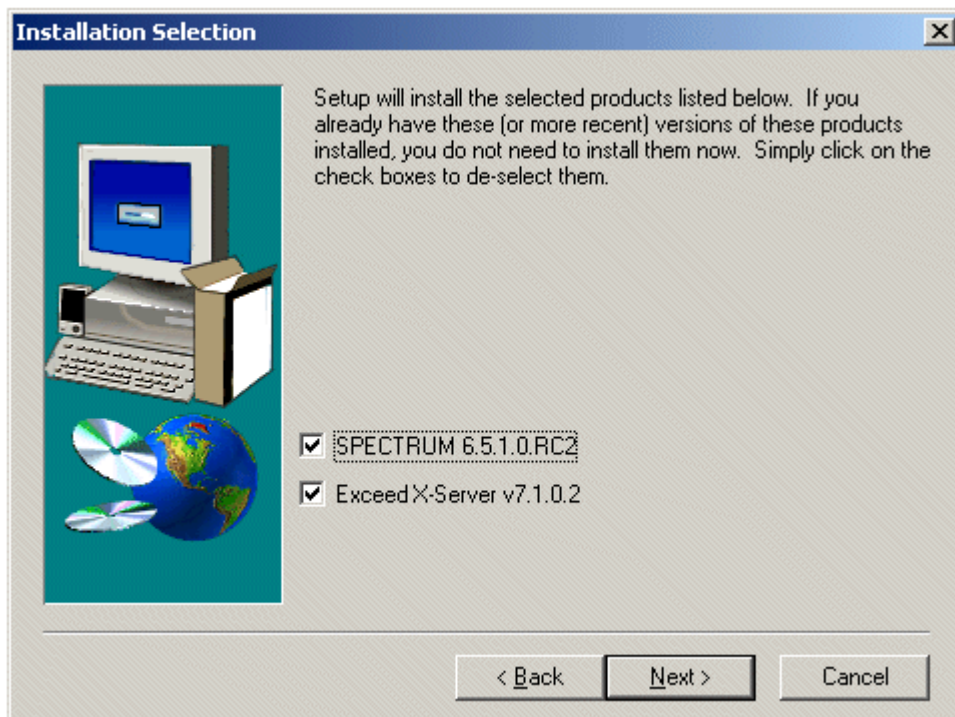


5. In the **Installation Selection** screen ([Figure 8](#)), select the products you want to install; then click **Next**.

Note: If the Exceed X server is already installed on your system, and is not the same version that ships with SPECTRUM, the installation program prompts you to uninstall Exceed and restart your system.

If you select to install the Exceed X server, the installation wizard appears at the end of the SPECTRUM Installation. For information on installing the Exceed X server, see [Installing the Exceed X Server \(Windows\)](#) [page 72].

Figure 8: Installation Selection Screen



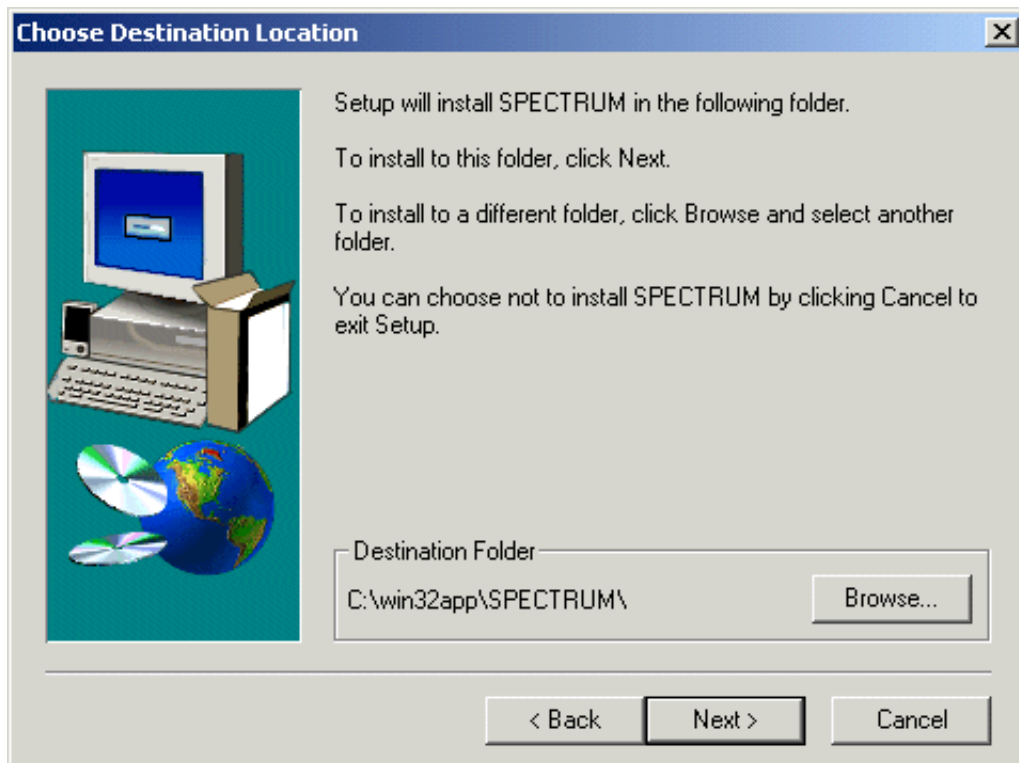
6. In the **Choose Destination Location** screen ([Figure 9](#)), do one of the following:

- To install SPECTRUM in the default folder, click **Next**. If you are performing an in-place upgrade, the installer detects the previous installation folder.

WARNING! Do not change the default destination to a location other than the folder that contains the SPECTRUM database you are upgrading.

- To install SPECTRUM in a location other than the default folder, click **Browse** to select a new location; then click **Next**. Use this option if you are performing a database migration and upgrade.

Figure 9: Choose Destination Location Screen (Windows)



After clicking **Next**, the **Setup** screen appears. This screen graphically monitors the installation process. The horizontal bar graph in the Setup panel shows the percentage of files copied.

The three vertical gauges show, from left to right: percentage of the current file copied; percentage of the CD copied; and the space available on the target system's hard disk. When the available space falls to less than 5%, the **Low** indicator turns bright red. When the installation software has finished loading, the **Setup** window closes automatically.

7. See [Installation GUI Screens \[page 48\]](#) to continue the installation.

Installation GUI Screens

This section provides a description of each installation screen and explains user input when required. The sequence and appearance of the installation GUI screens described in this section are almost identical for Solaris and Windows.

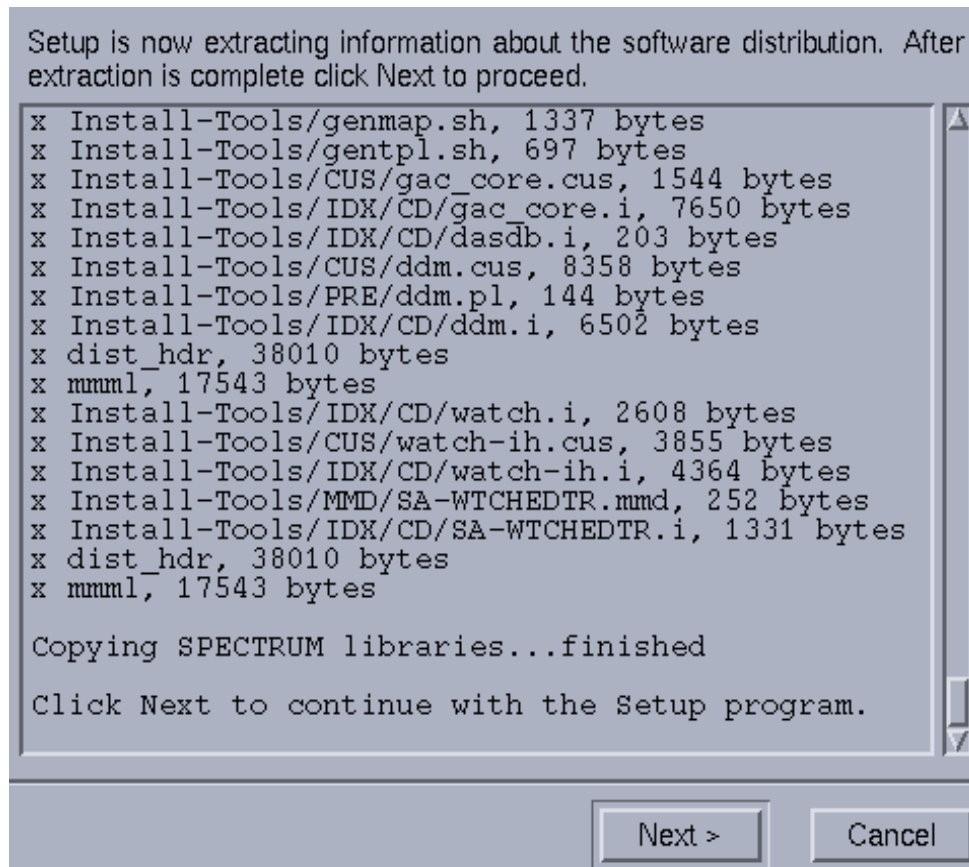
File Extraction Screen

The File Extraction screen ([Figure 10](#)) dynamically lists the components extracted from the Application CD. When this process is complete, a message appears at the bottom of the scrollable display area.

Procedure

Click **Next** to continue the installation.

Figure 10: File Extraction



Software Extraction Key Screen

Procedure

1. In the **Software Extraction Key** screen ([Figure 11](#)), check that the **Platform** and **CDROM Version** fields display the correct values for the target workstation.
2. In the **Extraction Key** data field, type the extraction key that is printed on the certificate accompanying the CD.
3. In the **License Number** field, type the SPECTRUM license number (also printed on the certificate).
4. Click **Next** to continue the installation.

Figure 11: Software Extraction Key Screen

devtop : Software Extraction Key

Please locate the proper "SPECTRUM Software License Keys" certificate for the machine you are installing on. Verify that the values for Platform and CDROM Version printed on the certificate match the values below. An exact match is required to proceed.

Platform:

CDROM Version

Now, enter your Extraction Key and License Number in the fields below.

Extraction Key:

License Number:

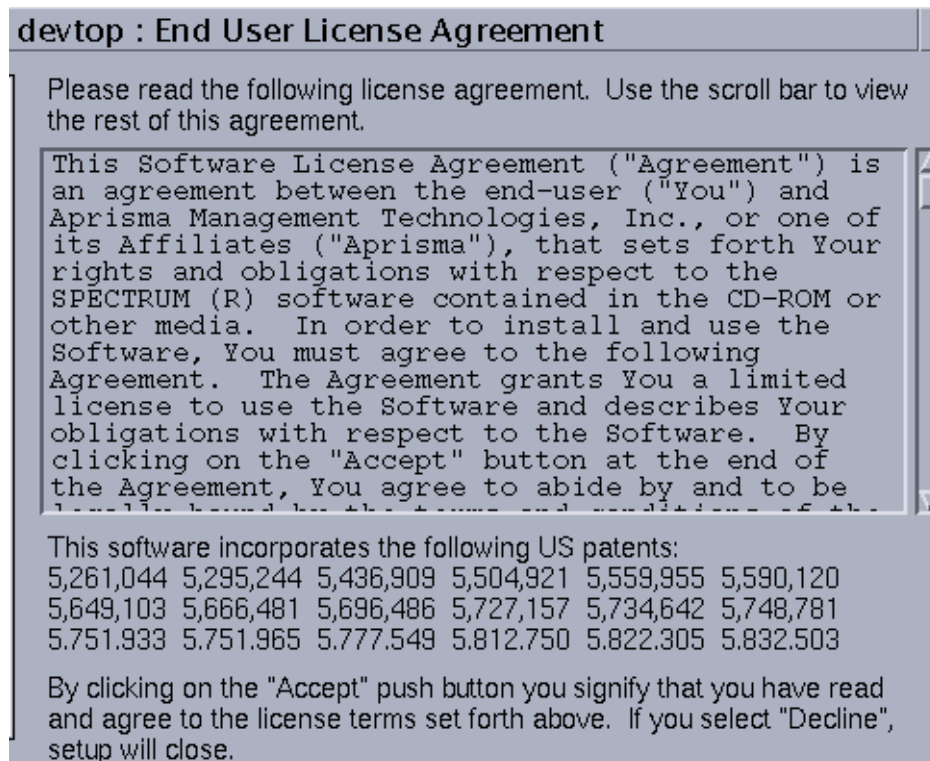
End User License Agreement Screen

The End User License Agreement screen ([Figure 12](#)) shows the license agreement associated with the key you entered in the Software Extraction Key screen (see [Figure 11 \[page 49\]](#)).

Procedure

1. Use the scroll bar to view the entire agreement.
2. Do one of the following:
 - To accept the terms of the agreement and continue the installation, click **Accept**.
 - To decline the terms of the agreement and terminate the installation, click **Decline**.
 - To return to the preceding view for any reason (for example, to correct an extraction key), click **Back**.

Figure 12: End User License Agreement



Host Evaluation Screen

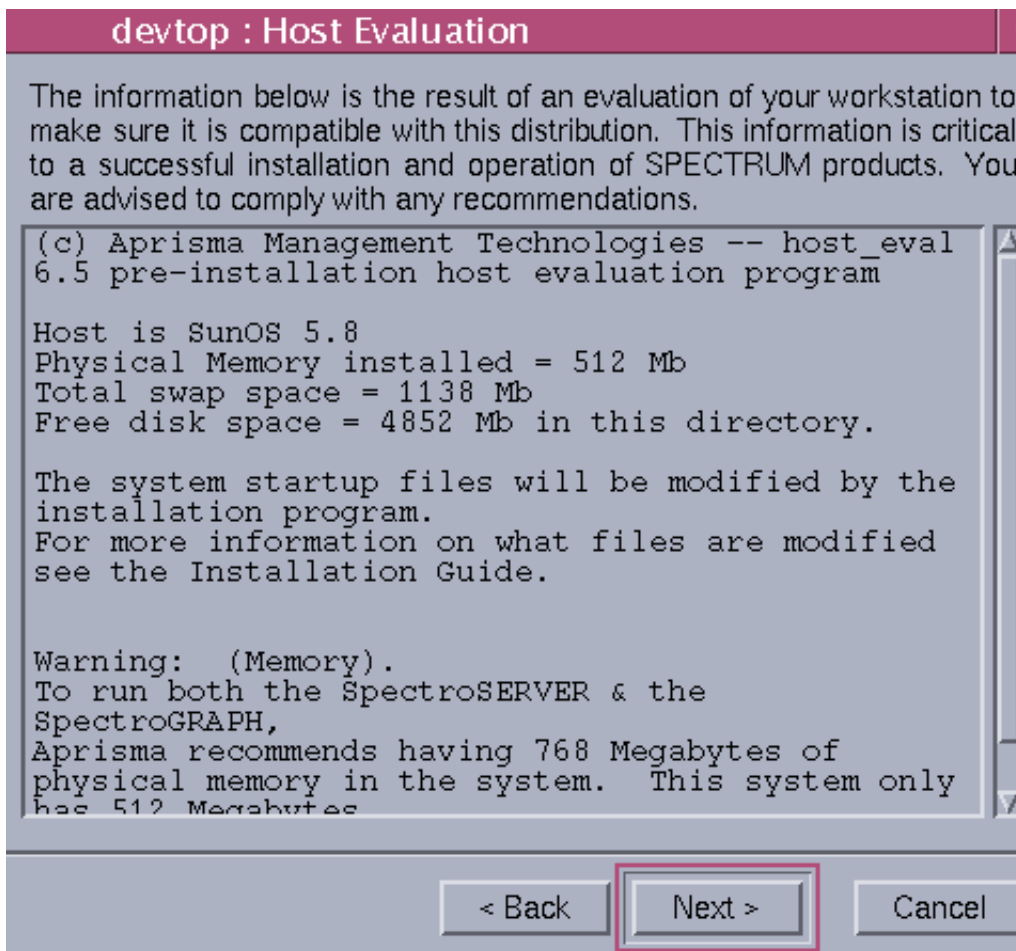
The SPECTRUM installation software automatically checks the operating system version and disk space resources of your workstation to make sure they are compatible with installation requirements. The results of this evaluation are displayed in a Host Evaluation screen ([Figure 13](#)).

This information is critical to successful installation and operation of SPECTRUM. You are advised to comply with all recommendations returned by the evaluation. If your system is in compliance, click Next.

Procedure

If your system is in compliance, click **Next**.

Figure 13: Host Evaluation



Installation Configuration Screen

The Installation Configuration screen ([Figure 14](#)) displays default settings for the installation and lets you change them as necessary.

Figure 14: Installation Configuration Screen

devtop : Installation Configuration

Installation Type Choices

- ◆ Install
- ◆ Re-link previously installed components

Location Configuration

Target Ownership:

Component Configuration

- ☐ Select all SpectroSERVER components
- ☐ Select all SpectroGRAPH components
- ☐ Select all external applications

Select Individual Components

Total Disk Space Required: 20095 KB

Reset

Windowing System Paths

Lib Path:

Toolkit Lib Path:

< Back **Next >** Cancel

The following sections provide more detailed instructions for using the Installation Configuration screen:

[Selecting an Installation Type \[page 53\]](#)

[Selecting Location Configuration \[page 54\]](#)

[Installing Individual Components \[page 54\]](#)

[Installing All SPECTRUM Components on a Single Workstation \[page 55\]](#)

[Installing SpectroGRAPH Only \[page 55\]](#)

[Installing SpectroSERVER Only \[page 55\]](#)

[Resetting the Default Component Configuration Values \[page 56\]](#)

[Using the Command Buttons \[page 56\]](#)

Selecting an Installation Type

Procedure

In the **Installation Type Choices** panel (see [Figure 14 \[page 52\]](#)), do one of the following:

- To install (and link) any or all of the SPECTRUM components, select **Install**.
- To rebuild previously installed SpectroGRAPH and SpectroSERVER executables and selectively link individual management modules, select **Re-link previously installed components**.

Note: If you are installing for the first time, the relinking option is grayed out.

Selecting Location Configuration

Procedure

Important: If you are doing an upgrade installation on either Solaris or Windows, the owner of the target directory must have a SPECTRUM user model in the database being upgraded. Otherwise, the directory owner will not be able to start SpectroGRAPH after the installation is completed.

In the **Location Configuration** panel's **Target Ownership** field (see [Figure 14 \[page 52\]](#)), do one of the following:

- For Solaris installations, this field is blank. Type the user name of the owner of the target directory (the directory in which you are installing SPECTRUM).

Note: Although you must log in as root to run the installation, the owner of the target directory should NOT be root.

- For Windows installations, this field shows the user name used to log into the workstation. Type the user name of the owner of the target directory (the directory in which you are installing SPECTRUM).

Installing Individual Components

Procedure

1. In the **Component Configuration** panel (see [Figure 14 \[page 52\]](#)), click **Select Individual Components**.
2. In the **Component Selection** screen (see [Figure 15 \[page 57\]](#)), select (or deselect) the individual components you want to install. See [Component Selection Screen \[page 57\]](#) for more information on installing individual components.

Installing All SPECTRUM Components on a Single Workstation

Procedure

In the **Component Configuration** panel (see [Figure 14 \[page 52\]](#)), select the following options:

- **Select all SpectroSERVER components**
- **Select all SpectroGRAPH components**
- **Select all external applications.**

Note: The **Select all external applications** option is required; it not only installs optional applications (such as gateways and developer's tools) that are licensed for installation from this CD, but also certain components required by SpectroSERVER and SpectroGRAPH.

Installing SpectroGRAPH Only

Procedure

In the **Component Configuration** panel (see [Figure 14 \[page 52\]](#)), select the following options:

- **Select all SpectroGRAPH components**
- **Select all external applications option**

Note: The SPECTRUM Control Panel is not included with a SpectroGRAPH-only installation. Consequently, you must manually edit the .hostrc and .locrc files. For more information, see the *Security and User Maintenance Guide (9032602)*.

Installing SpectroSERVER Only

Procedure

In the **Component Configuration** panel (see [Figure 14 \[page 52\]](#)), select the following options:

- **Select all SpectroSERVER components**
- **Select all external applications**

Resetting the Default Component Configuration Values

Procedure

In the **Component Configuration** panel (see [Figure 14 \[page 52\]](#)), click **Reset** to undo any entries or settings you made and restore the default values.

Using the Command Buttons

Procedure

At the bottom of the **Installation Configuration** screen, do one of the following:

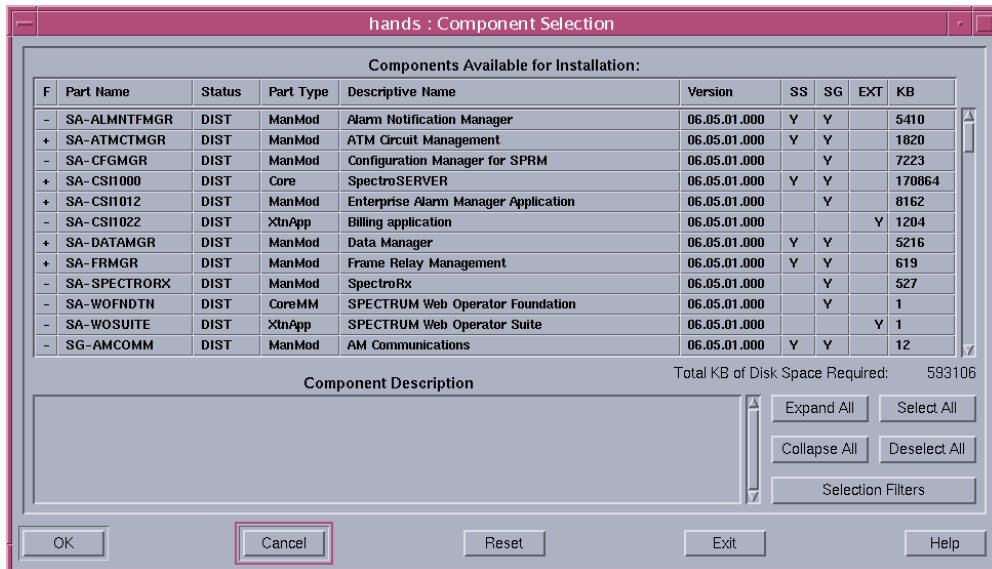
- Click **Next** to continue the installation. If you are installing SpectroSERVER components, the **SpectroSERVER Validation** screen ([Figure 17 \[page 63\]](#)) appears. If not, the **Location Server Configuration** screen ([Figure 18 \[page 67\]](#)) appears.
- Click **Back** to return to the previous screen.
- Click **Cancel** to exit the installation program.
- Click **Help** to open another screen that provides instructions for the **Installation Configuration** screen.

Component Selection Screen

The Component Selection screen ([Figure 15](#)) displays a listing of all purchased SPECTRUM components and lets you select individual components for installation and linking. If you have already installed SPECTRUM and select Re-link previously installed components from the Installation Configuration screen, this list will not show any components because individual components cannot be selected during relinking. This screen also provides descriptive and dependency information.

If for some reason a component of a patch is inappropriate for installation on your system, the Status Column (see [Figure 15](#)) displays BADVERSION and you will not be able to install that component. If you have problems installing a patch, contact your Aprisma service representative.

Figure 15: Component Selection Screen



The following sections provide more detailed information on the Component Selection screen:

[Components Available for Installation Table \[page 58\]](#)

[Using the Selector Buttons \[page 60\]](#)

[Selection Filters \[page 61\]](#)

[Using the Command Buttons \[page 62\]](#)

Components Available for Installation Table

The scrollable table at the top of the Component Selection screen (see [Figure 15 \[page 57\]](#)) identifies each of the components purchased, or already installed on the target system. For each component listed, the table provides the following information:

F (Fold/Unfold) Components that show a plus symbol (+) in this column have sub-components that display (or unfold) by clicking the plus symbol (+). Components showing a minus symbol (-) either have no selectable sub-components or have already been unfolded, in which case, clicking the symbol folds the sub-components back into the original parent component.

Part Name This column displays the part name of the component. Click any cell in this column to display the component's description in the Component Description panel. Only major components and components that have no sub-components can be selected or deselected by clicking the part name.

Status This column identifies the component as belonging to one of the following categories based upon the component's internal revision (Irev) number:

- **DIST** (Distribution) - The component exists only on the CD and has not yet been installed. For an initial installation, all components will be listed as DIST.
- **INST** (Installed) - The component has already been installed and is present on the system, but is not part of the new installation.
- **SAME** - The version number of the CD component is the same as the version number of another copy of the same component installed on the target system.
- **DNGRD** (Downgrade) - The version number of the CD component is older than the version number of an installed copy of the same component type and represents a downgrade.

- **UPGRD** (Upgrade) - The version number of the CD component is newer than the version number of an installed copy of the same component type and represents an upgrade.
- **BADVERSION** - This indicates that the version of the component is inappropriate to install on this system. Typically, this will indicate a mismatch between your version of SPECTRUM and a patch you are attempting to install.

Note: Components that are selected for installation have a Y in the appropriate SS, SG, or EXT columns described below. For upgrades, the default is: components with a status of EQUAL or DNGRD are not selected for installation and cannot be selected except via the Selection Filters screen ([Figure 16 \[page 61\]](#)). Components with a status of UPGRD are selected by default, for installation.

Part Type This column identifies the type of the component as either Core, CoreMM (Core Management Module), ManMod (non-core Management Module), or XtnApp (External Application). For most installations, it is essential to install all Core and CoreMM components.

Descriptive Name The common descriptive name of the component.

Version The version number of the component, identifying the SPECTRUM major and minor release numbers, revision number, and patch version.

SS, SG, EXT These three columns indicate (by the letter Y or N) whether the component contains elements associated with SpectroSERVER (SS) or SpectroGRAPH (SG), or whether it is an external application (EXT).

The letter Y indicates that the elements are selected for installation or re-linking while the letter N indicates they are not selected. The initial settings depend on how the selector buttons were set in the Installation Configuration screen. For example, if you clicked Select all SpectroGRAPH components in the previous screen's Component Configuration panel, then Y will only appear in the SG column.

This is the preferred method of selecting only one type of component, even though you can toggle SS and SG values here for components that are not sub-components of a larger group. On the other hand, SS and SG elements are not separately selectable for sub-components. In any case, clicking on any Y or N cell in these columns will display a description of the associated component in the panel described below.

Disk Space Required The KB column indicates the approximate amount of disk space (in kilobytes) required for all elements of each component (i.e., both SS and SG). The values in this column and at the bottom of the panel for

Total KB of Disk Space Required are dynamically updated to reflect current Y and N settings.

In cases where you are installing over an existing version of SPECTRUM, individual KB values may be zero (if the new component requires the same amount of space as the existing one) or a negative number (if the new component requires less space).

Component Description This panel displays an expanded narrative description of the currently selected component.

Using the Selector Buttons

The selector buttons in the Component Selection screen (see [Figure 15 \[page 57\]](#)) change multiple settings in the component list. The four smaller buttons let you do this with a single mouse click.

Procedure

Do one of the following:

- Click **Expand All** to display all sub-components for any components showing a plus symbol (+) in the **F** column.
- Click **Collapse All** to refold all subcomponents back into the parent components.
- Click **Select All** to change any **N** settings in the **SS**, **SG**, or **EXT** columns to **Y**, providing the component type was selected in the **Installation Configuration** screen ([Figure 14 \[page 52\]](#))).
- Click **Deselect All** to change any **Y** settings in the **SS**, **SG**, or **EXT** columns to **N**.
- Click **Selection Filters** to display a dialog box ([Figure 16 \[page 61\]](#)) that lets you resolve version conflicts between components on the installation CD and those already installed.

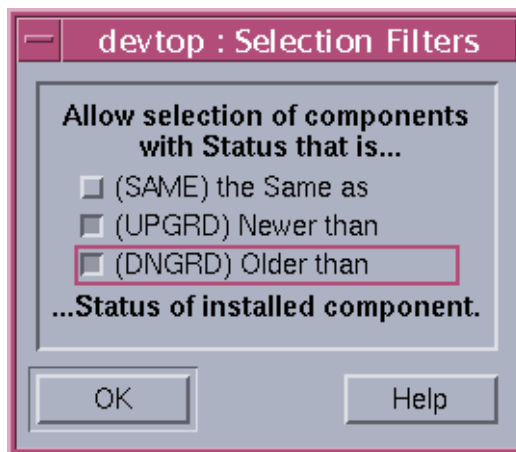
Selection Filters

The Selection Filters dialog box ([Figure 16](#)) lets you apply special filters to override certain normal installation constraints by using the (SAME), (UPGRD), and (DNGRD) buttons. Click OK to confirm settings and return to the Component Selection screen, or click Help for instructions for this screen.

The (SAME), (UPGRD), and (DNGRD) buttons (see [Figure 15 \[page 57\]](#)) can be used in situations where SPECTRUM is already installed to allow selection of installation components that are the same as, newer than, or older than, their installed counterparts. The UPGRD button is always set to ON by default, although there is nothing to upgrade in an initial installation. In subsequent installations, however, you may want to select components in all three categories.

Note: The selection filters are not needed for normal installation, and Aprisma recommends that you not use them unless you first consult your Aprisma service representative.

Figure 16: Selection Filters



Using the Command Buttons

The command buttons are located at the bottom of the Component Selection screen (see [Figure 15 \[page 57\]](#)).

Procedure

Do one of the following:

- Click **OK** to close the **Component Selection** screen (with the current settings in effect) and return to the **Installation Configuration** screen ([Figure 14 \[page 52\]](#)).
- Click **Cancel** to cancel any changes you made to the default settings and returns to the **Installation Configuration** screen
- Click **Reset** to restore the default values.
- Click **Exit** to exits the installation program.
- Click **Help** to open a screen that provides online instructions for the **Component Selection** screen.

SpectroSERVER Validation Screen

The SpectroSERVER Validation screen ([Figure 17](#)) lets you verify installation information, enter an SS Activation Key, and enter a landscape handle.

Figure 17: SpectroSERVER Validation

If the "SPECTRUM Software License Keys" certificate does not contain a SpectroSERVER (SS) Activation Key, visit the Aprisma Web site below to generate a key.
<http://www.aprisma.com/swmfg/act-keygen/>

If you are unable to generate a key on the web, please call SPECTRUM Support and ask for your SpectroSERVER Activation Key.

North America: 603-334-2978 Japan: (*)-81-3-3459-1981
Europe: (*)-44-635-580000 Singapore: (*)-65-7755355
Pacific: (*)-61-2-950-5900 * International Operator Code

Enter the Expiration Date and SS Activation Key below. The SS Activation Key is case sensitive. All alpha values are in lower case.

Enter the Landscape Handle below. The Landscape Handle must be a unique identifier for each SpectroSERVER you are installing.

Hostname:	hands	Expiration Date:	12/31/2017
Authorization Code:	847a1ba6	SS Activation Key:	80e66895
SS Version:	6.5.1.0	Landscape Handle:	16
Device Model Limit:	None		

< Back Next > Cancel

The following sections provide more detailed instructions for using the SpectroSERVER Validation screen:

[Field Descriptions \[page 64\]](#)

[Entering an Expiration Date \[page 64\]](#)

[Entering an SS Activation Key \[page 64\]](#)

[Entering a Landscape Handle \[page 65\]](#)

[Using the Command Buttons \[page 66\]](#)

Field Descriptions

The following describes each field in the SpectroSERVER Validation screen:

Hostname This value is derived from the Hostname(s) in the Installation Configuration screen (see [Installation Configuration Screen \[page 52\]](#)).

Authorization Code This value is derived from the installation software.

SSVersion This value is derived from the installation software.

Expiration Date This is the expiration date obtained from either the Aprisma Web site, or from Aprisma Technical Assistance Center (see [Entering an Expiration Date \[page 64\]](#)).

SS Activation Key This is your SS Activation Key (see [Entering an SS Activation Key \[page 64\]](#)).

Landscape Handle This is the unique identifier for each SpectroSERVER you are installing (see [Entering a Landscape Handle \[page 65\]](#)).

Entering an Expiration Date

Procedure

In the **Expiration Date** box (see [Figure 17 \[page 63\]](#)), type the date obtained from either the Aprisma Web site, or from Aprisma Technical Assistance Center, in MM/DD/YYYY format.

Entering an SS Activation Key

Procedure

In the **SS Activation Key** box (see [Figure 17 \[page 63\]](#)), type the SS Activation Key (this value is case sensitive) as obtained either from the Aprisma Web site at: <http://www.aprisma.com/swmfg/act-keygen/> or from Aprisma Technical Assistance Center.

Entering a Landscape Handle

Procedure

In the **Landscape Handle** box (see [Figure 17 \[page 63\]](#)), type a numeric value that is a multiple of 4 and is between 4 and 16,376 to serve as a unique identifier for each SpectroSERVER you are installing. You can also enter hexadecimal values in the range from 0x100000 to 0xffe00000, where the lower 20 bits are set to zero.

On Solaris systems, you can convert a decimal value to the proper format for a SPECTRUM hexadecimal landscape handle by running the following three commands:

1. `bc`
2. `obase=16`
3. `<decimal value> * 262144`

The `bc` utility displays a hexadecimal value that you enter in the Landscape Handle field, prefixed by 0x. For example, a decimal value of 24 multiplied by 262144 will yield a hexadecimal value of 600000. You would enter 0x600000 in the Landscape Handle field.

If you are migrating or upgrading an existing database, its landscape handle is listed in this field. However, this field is not editable for upgrade/migration installations.

WARNING! If your existing landscape handle is not evenly divisible by 4 and within the range of 4 to 16,376, you must exit the installation and assign a valid landscape handle using the SPECTRUM landscape handle conversion utility (see [SpectroSERVER Landscape Handle Requirements \[page 14\]](#)).

Unique landscape handles are crucial if you are configuring a distributed SpectroSERVER environment (see [SpectroSERVER Landscape Handle Requirements \[page 14\]](#)).

Using the Command Buttons

The command buttons are located at the bottom of the Component Selection screen (see [Figure 17 \[page 63\]](#)).

Procedure

Do one of the following:

- Click **Help** to open a screen that provides online instructions for the **SpectroSERVER Validation** screen.
- Click **Back** to return to the previous screen.
- Click **Next** to continue the installation.
- Click **Cancel** to exit the installation program.

Location Server Configuration Screen

The Location Server Configuration screen ([Figure 18 \[page 67\]](#)) lets you select a Main Location Server. When you install SPECTRUM components on a workstation, you also automatically install a location server. In a distributed environment, where there are multiple SpectroSERVERs, SPECTRUM uses these location servers to maintain the VNM landscape map, and to provide connection services to client applications. See *Distributed SpectroSERVER (2770)* for more information.

This scheme requires that one of the location servers be designated the Main Location Server. This workstation should be highly reliable and available; ideally the same one hosting the SpectroSERVER you designated as your Master Modeling Catalog.

Figure 18: Location Server Configuration Screen

SPECTRUM will automatically install a Location Server to provide connection services to client applications on this machine.

If the SPECTRUM components you are installing on this machine will require access to SPECTRUM components on other machines, you must specify a Main Location Server. Main Location Servers are simply Location Servers designated by your SPECTRUM administrator to facilitate communication between distributed SPECTRUM applications and SPECTRUM servers.

☒ Point the Local Location Server to the Location Server on the following machine:

Main Location Server Host:

☐ This machine will host a Main Location Server. (Also use this option if this machine will not be part of a distributed environment.)

< Back Next > Cancel

Selecting a Main Location Server

Procedure

Do one of the following:

- To select a Main Location Server, select **Point the Local Location Server to the Location Server on the Following Machine**; then type the name of the Main Location Server in the **Main Location Server Host** box.
- To select the target workstation as the Main Location Server, select **This machine will host a Main Location Server. (Also Use this option if this machine will not be part of a distributed environment.)**

Using the Command Buttons

Procedure

Do one of the following:

- Click **Back** to return to the previous screen.
- Click **Next** to continue the installation.
- Click **Cancel** to exit the installation program.

User Model Index Service Screen

The User Model Index Service screen appears only when the workstation on which you are currently installing SPECTRUM is also going to be the Main Location Server.

The User Model Index Service allows information stored in the user models (such as preferences) to be shared by all systems using the same main location server. For example, an application preference set by a user will apply on the user's own system, and also when the user accesses the application from another system that connects to the same location server.

User Model Index Service can only be installed on one workstation in a distributed environment; usually the same workstation designated as a Main Location Server.

Procedure

1. To install the user model tracking service, select **Enable....**
2. Do one of the following:
 - Click **Back** to return to the previous screen.
 - Click **Next** to continue the installation.
 - Click **Cancel** to exit the installation program.

Installation Summary Screen

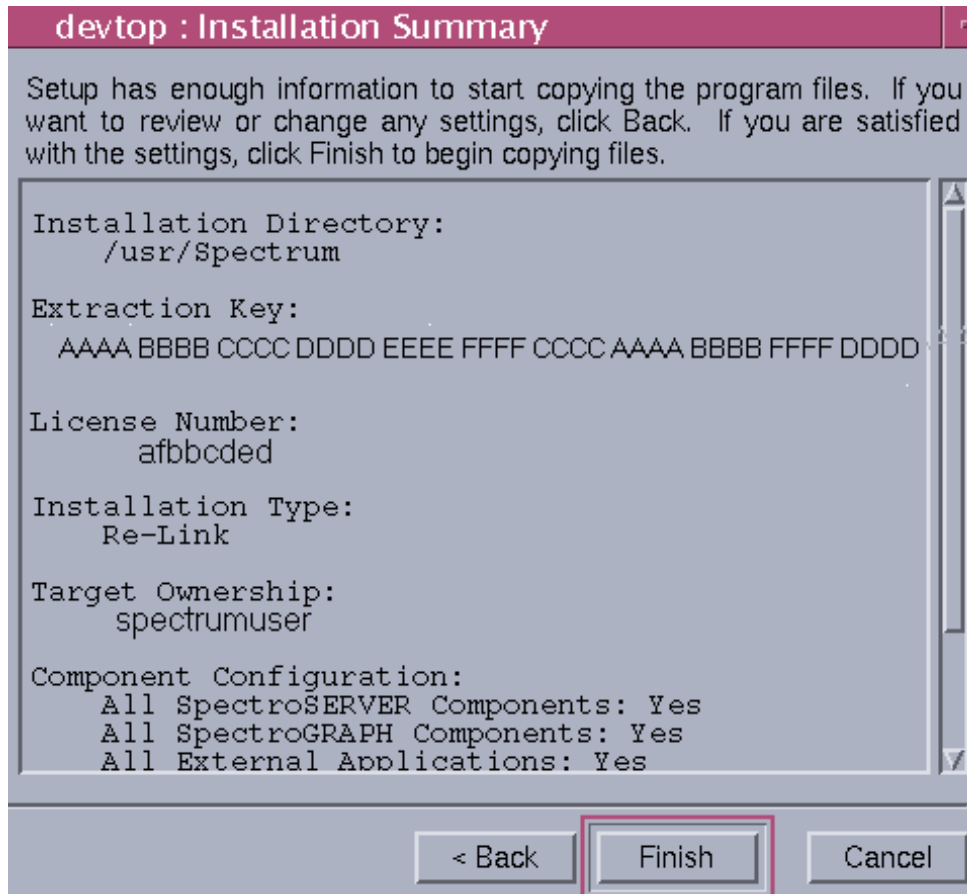
The Installation Summary screen ([Figure 19](#)) lists the entries you made and the settings you selected in the previous series of screens.

Procedure

Do one of the following:

- Click **Back** to return to previous screens and make changes.
- Click **Finish** to start the actual installation.
- Click **Cancel** to exit the installation program.

Figure 19: Installation Summary Screen

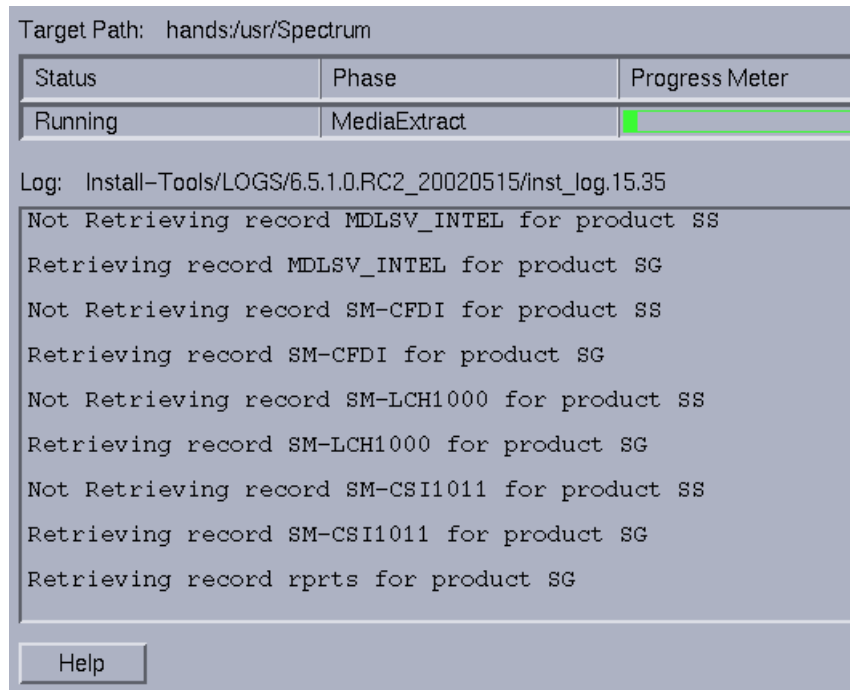


Installation Monitor Screen

The top panel of Installation Monitor screen ([Figure 20](#)) displays the status of the installation (Initial, Running, Paused, Failed, or Completed). It also displays the current installation phase (Initializing, MediaExtract, DBImporting, Custom Scripts, LinkingSG, LinkingSS, or ValidatingSS). The Progress Meter shows a graphical representation of the percentage of the installation completed, and the total kilobytes of free disk space remaining. Clicking within this panel causes the display to refresh.

The bottom panel displays the installation log generated during the installation process. A scroll bar on the right side of the panel lets you view the entire log, and a Freeze Scrolling button lets you stop the display at any point during log generation. Using the scroll bar automatically activates the Freeze Scrolling feature.

Figure 20: Installation Monitor Screen



Using the Command Buttons

The command buttons at the bottom of the screen let you cancel the installation or view online help on the Installation Monitor screen.

Procedure

Do one of the following:

- Click **Cancel** to exit the installation program.
- Click **Help** to open another screen that provides instructions for the Installation Monitor screen.

Completing the Installation

When the Installation Status field (see [Figure 20 \[page 71\]](#)) value changes to "Completed," a message box displays to inform you that the installation has completed successfully and on Solaris systems, that you must log out and log back in to update the SPECTRUM icons and environment variables.

Procedure

1. In the message box, click **OK**.
2. In the next message box, click **Yes** to complete the installation on a Solaris system, or to continue with the installation on Windows systems as described in [Installing the Exceed X Server \(Windows\) \[page 72\]](#).

Installing the Exceed X Server (Windows)

If you selected to install the Exceed X server in the Installation Selection screen ([Figure 8 \[page 45\]](#)), an installation wizard appears. The wizard leads you through the Exceed installation process with a series of prompts. At the end of the installation process, a message box informs you that your X server installation is complete.

When Installation Is Complete

Procedure

1. When the installation software is finished running, do one of the following:
 - On Solaris systems, restart the CDE workspace manager to update your desktop icons.
 - On Windows systems, restart your workstation.
2. If you have performed an upgrade, back up your SpectroSERVER database before starting SPECTRUM.

Important: Aprisma strongly recommends that you create a backup of the upgraded database using the SSdbsave utility with the -cm options before starting SpectroSERVER for the first time. This ensures the integrity of the upgraded database if your new SpectroSERVER fails before you are able to use the OnLine Backup feature

Starting SPECTRUM and Postinstallation Configuration

This section explains how to start SPECTRUM after its installation and describes required and optional postinstallation configuration tasks.

In this section:

[Starting SPECTRUM \[page 74\]](#)

[Upgrading SPECTRUM Models and Model Types \[page 74\]](#)

[Configuring SPECTRUM CORBA Services \[page 75\]](#)

[Scheduler Requirements \(Windows\) \[page 78\]](#)

[Important Files Created During Installation \[page 78\]](#)

[Setting up Client Access \[page 80\]](#)

[Remote Display of SPECTRUM \[page 80\]](#)

Starting SPECTRUM

The SPECTRUM documents *Getting Started with SPECTRUM for Administrators (9030985)* and *Control Panel User Guide (9035100)* provide detailed information on starting SPECTRUM. Before starting SPECTRUM, however, back up your SpectroSERVER database if you have just installed a new version of SPECTRUM over an earlier one (see [When Installation Is Complete \[page 73\]](#)).

Important: Aprisma strongly recommends that SpectroGRAPH and other SPECTRUM applications be started either from the SPECTRUM Control Panel or the from desktop. Starting SPECTRUM from the command line is not recommended.

Upgrading SPECTRUM Models and Model Types

If you are upgrading SPECTRUM, your existing SpectroSERVER database may contain models created from obsolete or unsupported model types from the earlier SPECTRUM version. For instructions on converting and

deprecating obsolete models and model types, see [Upgrading SPECTRUM Models, Model Types, and Management Modules \[page 84\]](#).

Configuring SPECTRUM CORBA Services

Some SPECTRUM operations rely on CORBA agents. When these agents are started on the local network, they discover each other using UDP broadcast messages. If your SPECTRUM environment spans multiple broadcast domains, make sure the primary IP address of the host for each of these agents is available to the agents in different domains.

Complete this procedure *for each system on which SPECTRUM Components are installed*.

Procedure

[Windows]

1. If **Spectrum Visibroker SmartAgent** is running, complete the following steps to stop the process.
 - a. From the Windows Control Panel, select **Administrative Tools > Services**.
 - b. Select **Spectrum Visibroker SmartAgent**.
 - c. Select **Action > Stop**.
2. Navigate to:
`<$SPECROOT>\bin\VB0A`
3. Create a file named agentaddr.
4. In the agentaddr file, create a list of the IP Addresses of all workstations outside of your SpectroSERVER's broadcast domain. Place a carriage return at the end of this list, so the agent can read the last entry.
5. Restart **Spectrum Visibroker SmartAgent**.
6. Using the Registry Editor (regedit.exe), verify that the following subkey appears in the registry:

HKEY_LOCAL_MACHINE/SOFTWARE/Visigenic Software Inc

If the Visigenic Software Inc subkey does not appear in the registry, do the following:

- a. Using the Registry Editor, add the Visigenic Software Inc subkey information as indicated by bold text in [Figure 1](#):

Figure 1: Visigenic Software Inc Subkey

- HKEY_LOCAL_MACHINE
 - SOFTWARE
 - **Visigenic Software Inc**
 - **Visibroker**
 - **3.0**
 - OSAGENT_PORT:REG_SZ:14000
 - PathName:REG_SZ:<\$SPECROOT>/bin/VB0A
 - vbc:REG_SZ:
 - vbj:REG_SZ:
 - VBROKER_ADM:REG_SZ:<\$SPECROOT>/bin/VB0A

- b. Restart **Spectrum Visibroker SmartAgent**.

[Solaris]

1. If **Spectrum Visibroker SmartAgent** is running, complete the following steps to stop the process.
 - a. From CDE select **Tools > Find Process**. The **Process Manager** opens.
 - b. Select **processd**.
 - c. Select **Process > Kill**.
2. Navigate to:
 <\$SPECROOT>/bin/VB0A
3. Create a file named agentaddr.
4. In the agentaddr file, create a list of the IP Addresses of all workstations outside of your SpectroSERVER's broadcast domain. Place a carriage return at the end of this list, so the agent can read the last entry.
5. In the <\$SPECROOT>/spectrum60.env file, add the following variables:
 VBROKER_ADM=<\$SPECROOT>/bin/VB0A
 OSAGENT_PORT=14000
6. Save and close the spectrum60.env file.
7. Restart processd.

Changing the OSAGENT_PORT

You can configure SPECTRUM to use an osagent port (OSAGENT_PORT) other than the default of 14000. In environments where Visibroker applications in addition to SPECTRUM are used, each Visibroker application must have a unique osagent port to avoid conflicts. Additionally, to avoid conflict in a distributed SPECTRUM environment, you can define a unique OSAGENT_PORT for each distributed SpectroSERVER.

Complete this procedure to change the OSAGENT_PORT.

Procedure

1. Use one of the following procedures to change the osagent port.

[Windows]

- a. From the Windows Control Panel, open **System**.
- b. On the **Advanced** tab, click **Environment Variables**.
- c. From the **Environment Variables** dialog, highlight the **OSAGENT_PORT** system variable and click on the **Edit...** button.
- d. Change the variable value to the new port number and click **OK**.
- e. Click **OK** in the **Environment Variables** dialog.
- f. Reboot your system.

[Solaris]

- a. Open the /opt/SPECTRUM/spectrumXX.env file for editing.
- b. Replace the value of the OSAGENT_PORT variable with the new port value (for example, OSAGENT_PORT=14001).
- c. Save and exit the file.
- d. Restart the SPECTRUM processd. For more information about processd, see the *Distributed SpectroSERVER (2770)* guide.

Scheduler Requirements (Windows)

This section describes how to configure the Windows Scheduled Tasks service to work with the SPECTRUM Scheduler.

Procedure

1. [Windows NT] Select **Start > Windows NT Explorer**.
[Windows 2000] Select **Start > Settings > Control Panel**.
2. Open **Scheduled Tasks**.
3. Select **Advanced > AT Service Account**.
4. In the **AT Service Account Configuration** dialog box, select **This Account**.
5. Enter a user name (including the domain, if applicable) of a valid SPECTRUM user (e.g., "WORKGROUP\jsmith").

Note: By default, this field contains the current user. If the default is the SPECTRUM user, no change is necessary.

SPECTRUM scheduled tasks are run on behalf of the designated user.

6. Enter the user's password in the **Password** and **Confirm Password** fields.

Important Files Created During Installation

The SPECTRUM installation adds the following file types:

[SPECTRUM Process Daemon \(processd\) Files \[page 78\]](#)

[SPECTRUM Remote Administration Daemon \(SRAdmin\) Files \[page 79\]](#)

[Installation Database Savefiles \[page 79\]](#)

SPECTRUM Process Daemon (processd) Files

The SPECTRUM installation adds a SPECTRUM process daemon (processd) file to the following startup areas of Solaris operating systems:

/etc/init.d/processd

/etc/init.d/processd.pl

/etc/rc0.d/K09processd

/etc/rc2.d/S97processd

WARNING! These files are required for SPECTRUM operation and should not be removed.

For more information about processd, see the *Distributed SpectroSERVER (9032770)* guide.

SPECTRUM Remote Administration Daemon (SRAdmin) Files

The installation adds the SPECTRUM Remote Administration daemon (SRAdmin) files required by SPECTRUM for user authentication and distributed administration:

/sw/SPECTRUM/SRAdmin/sradmin.exe
/etc/init.d/sradmin
/etc/rc0.d/K01sradmin
/etc/rc2.d/S99sradmin

WARNING! These files are required for SPECTRUM operation and should not be removed.

Installation Database Savefiles

The SPECTRUM installation software automatically creates two savefiles in the <\$SPECROOT>/SS directory, each containing a copy of the database modeling catalog being installed. The first file is date-stamped, with the extension .after. A copy of the .after file is created and named legacy.SSdb (overwriting any previous legacy.SSdb file).

The legacy.SSdb file is used with the SSdbload utility to reinitialize your database with the most recently installed modeling catalog, while the .after files let you restore the catalog associated with any particular installation. A sequential counter following the date portion of the file name lets you distinguish between multiple .after files generated on the same day. For example, if three of these files were generated on May 4, 2002, they would be labeled:

db_20020504,1.after.SSdb
db_20020504,2.after.SSdb
db_20020504,3.after.SSdb

Setting up Client Access

Client access to SPECTRUM is controlled by the `.hostrc` file in your SPECTRUM installation directory. By default, this file is configured to prevent other workstations from connecting to your SpectroSERVER (or your SpectroGRAPH from connecting to a SpectroSERVER if you have installed only SpectroGRAPH).

You can configure the `.hostrc` file from the SPECTRUM Control Panel to set up client access.

Procedure

1. Start the SPECTRUM Control Panel.
2. Select **Configure > Host Security**.
3. The **Host Security** window opens.
4. In the **Server List**, add the names of workstations that will be granted access to the local SpectroSERVER.
5. In the **User List**, add the names of users that will be granted access to the local SpectroSERVER.
6. Click **OK**.

Remote Display of SPECTRUM

This section describes the process of setting up a Windows workstation to remotely display SPECTRUM that is running on a Solaris workstation. The Solaris workstation must be installed with the applications that you wish to remotely display, and must be configured to support Telnet services.

Windows workstations used for remote display must be configured to support a Telnet client and must meet the same requirements as those listed in [Table 2 \[page 12\]](#) and those listed in [Table 3 \[page 13\]](#) (for SpectroGRAPH only). SPECTRUM supports one remote display session open at any one time on a client workstation.

Configuring Exceed X Server for Remote Display

Use this procedure to configure the Hummingbird Exceed X server for remote display:

1. Install the SPECTRUM-required version of Exceed (see [Table 2 \[page 12\]](#)) on the intended remote display workstation if it is not already present.
2. [If your Exceed X server is already running, disregard this step.] Using Windows Explorer, migrate to **Program Files>Exceed.nt**, and double-click **exceed.exe** to start the Exceed X server.
3. Right click the **Exceed** button in the Windows tool bar. Select **Tools > Configuration**. The Xconfig Password window displays. Enter the default password **spectrum**. The Xconfig configuration panel displays, showing various icons.
4. Double-click the **Security** icon in the **Xconfig** window. The Security window displays, showing the Host Access Control List for the Exceed X server.
5. To setup host access to your Windows workstation, click **File** to display a menu of Host Access Control Lists. Use the **Browse** button to select a Host Access Control List (shown in the Host Access Control List window) from the menu. Then, click **Edit** to add the host name of the Solaris workstation that you are going to display from.
6. [Optional] To allow any host to connect, select **Disabled (any host access)**. Click **OK**. The Xconfig panel displays.
7. The Exceed server must be reset to accept any configuration changes, before you attempt remote display. Click **Exit** from the **File** menu in the Xconfig panel. If this is the first time Xconfig has been accessed after installing Exceed, a **Reset Server** warning window displays. Click **Yes** to reset the Exceed server.

If your Exceed server has been accessed before, right click the **Exceed** icon in the Windows toolbar. Select **Tools > Server Reset**, and click **Reset** to reset the Exceed server. The server reset dialog window appears with the warning: **this will disconnect all Exceed clients**. Click **OK**.

8. Your Solaris SpectroSERVER must be set up for client access before you can initiate remote display. See [Setting up Client Access \[page 80\]](#).

Initiating Remote Display

To initiate remote display at your Windows workstation, follow these instructions:

1. Make sure the SPECTRUM Control Panel, and any applications that you want to remotely display, are installed on the Solaris workstation and configured to support remote display.

Note: SpectroGRAPH does not need to be running to initiate remote display.

2. From the Windows **Start** menu, click **Run**. The Run window displays.
3. Type: *Telnet <Solaris workstation host name>* and hit **Enter**. The Solaris login window displays.
4. Log into the Solaris workstation using your SPECTRUM User name and password. The system will report your last login, host name, operating system version, etc., followed by the Solaris prompt.
5. To set the remote display environment:

In the K (default) shell, type:

```
export DISPLAY=<remote display workstation name>:0.0
```

and hit **Enter**.

in the C Shell, type:

```
setenv DISPLAY <remote display workstation name>:0.0
```

and hit **Enter**.

In the Bourne shell type:

```
DISPLAY=<remote display workstation name>:0.0 export  
display and hit Enter.
```

Note: If you are going to be using remote display frequently, the display environment can be added to your profile, so this step won't have to be repeated at each login.

6. Navigate to the *<\$SPECROOT>* directory, type *./SCP* and hit **Enter**. The SPECTRUM Control panel displays. You now have remote access to all SPECTRUM Control Panel functions, including access to client SPECTRUM applications.

Terminating a Remote Display Session

Exit all remotely displayed SPECTRUM applications properly. Then type *exit* at the prompt in the Telnet terminal window to end the Telnet session.

Remote Display Limitations

The limitations to the functionality of remote display of SPECTRUM are:

- Java applications that are run from remote display sometimes display in a window that is too small for the contents. Try resizing the window. If resizing is not successful, launch the application again.
- Color variations can occur in the SPECTRUM Control Panel and in text box backgrounds for some applications. Occasionally, a pop-up window will appear decorated with a scroll bar, etc.
- Within some SPECTRUM applications, filters will change position on the window slightly when you select **Advanced** or **Simple** operations. To alleviate this problem, select **Tools > Configuration > Screen** in the Exceed server, and change the Window Manager to **X**.
- Errors are sometimes reported when launching SPECTRUM applications, or when launching the SPECTRUM Control Panel from the command line. Ignore these warnings.
- When the menu picks for AutoDiscovery are selected while viewing the application remotely, the menu options may appear at the center of the window, instead of under the file menu pick.
- The number pad on Windows workstations should not be used with applications under Remote Display. Results are unpredictable.

Upgrading SPECTRUM Models, Model Types, and Management Modules

This section contains information about upgrading your SPECTRUM models, model types, and management modules after you install the new version of SPECTRUM.

In this section:

[Ensuring Database Compatibility With Your Upgrade \[page 85\]](#)

[Upgrading Model Types and Models From SPECTRUM 5.0.1 \[page 89\]](#)

[Removing Discontinued Ethernet Application Models and Model Types \[page 92\]](#)

[Upgrading Host Models and Model Types \[page 94\]](#)

[Upgrading Nortel Accelar Models and Model Types \[page 97\]](#)

[Upgrading Generic Cable Modem Models and Model Types \[page 98\]](#)

[Upgrading Juniper Router Models and Model Types \[page 99\]](#)

[Upgrading Management Modules \[page 100\]](#)

Ensuring Database Compatibility With Your Upgrade

To ensure compatibility between your SpectroSERVER database and your SPECTRUM upgrade, you must convert SPECTRUM models created with older model types and remove the discontinued model types after you install the new version of SPECTRUM. This procedure is not required for first-time installations.

In some cases, a model type has changed based on vendor requirements. In other cases, SPECTRUM no longer supports a particular device with a unique model type, and these need to be converted to Gnsnmpdev model types.

If you have questions about converting model types, the model conversion process, or any errors you may encounter during conversion, contact your Aprisma support or sales representative.

Important: If you plan to set up a distributed SpectroSERVER configuration, perform model conversion before partitioning your database.

Postinstallation Scripts and Templates

With each SPECTRUM version, Aprisma provides scripts and templates that help you upgrade your SpectroSERVER database. These tools convert your existing models to new models and remove the model types that are no longer supported. It is not necessary to run every script; use [Table 1](#) to determine the scripts to run and procedures to follow to complete the upgrade from your existing SPECTRUM version.

The conversion procedure uses the DBconv utility in the `<$SPECR00T>/SS-Tools` directory. For more information about this utility, read the `DBconv.html` help file in the `SS-Tools` or see [Using the DBconv Utility \[page 112\]](#).

**Table 1: Upgrade Scripts, Templates, and Procedures
Listed by SPECTRUM Version**

Use the following script, template or procedure:	If you are upgrading from this SPECTRUM version:					
	5.0.1	6.0	6.0.1	6.0.2	6.0.3	6.5
MM_dep_50R1_script.pl [page 89]	X					
Convert_to_SSX.script [page 90]	X					
MT_del_50R1_script.pl [page 91]	X					
Rem_EnetApp_Mdls.sh [page 92]	X	X	X	X		
Removing the Discontinued Model Types [page 93]	X	X	X	X		
host_conversion.pl [page 95]	X	X	X	X		
Removing the Discontinued Model Types [page 95]	X	X	X	X		
Psp2Accelar.dbc [page 97]						X
DocsisCM_migration.pl [page 98]	X	X	X	X		
juniperConv.pl [page 99]			X	X	X	X
Enterasys/Riverstone Conversion (not documented; call support or check for Web updates)	X	X	X	X	X	
Zeitnet Conversion (not documented; call support or check for Web updates)	X	X	X	X	X	X
Catalyst Reconfiguration (not documented; call support or check for Web updates)	X	X	X	X	X	X
Scripts and Templates for Upgrading Management Modules [page 100]	These scripts are used with templates below, in specific combinations (see Table 8 [page 100]).					
Ntlwf_dep_template [page 100]	X	X	X	X		
DocsisDepTemplate [page 100]	X	X	X	X		
NortelShasta [page 100]	X	X	X	X	X	X
CPQdepTemplate [page 100]	X	X	X	X	X	
EmpDepTemplate [page 100]	X	X	X	X	X	X

If You Used Model Type Editor

If you used the Model Type Editor (MTE) to customize your SpectroSERVER database, make a record of all changes that you made with the MTE. Some changes made with the MTE are not preserved when the database is upgraded to a later version of SPECTRUM. Specifically, if you use the MTE to change relations, metarules, or attributes of Aprisma-supplied or other developer-supplied model types, those changes most likely will not survive the database upgrade, and you will have to reapply the changes manually after completing the upgrade.

Model types can be changed and improved in the upgraded version of SPECTRUM, and these changes may need to overwrite customized values for the new release of SPECTRUM to operate correctly. See the *Model Type Editor User's Guide (9030659)* for specific information about how to preserve database changes, and which types of changes can be preserved.

Attributes and Elements Preserved With Model Types

Refer to the [Figure 2 \[page 88\]](#) to determine which model type attributes and other elements are preserved when you use the listed scripts to upgrade your SpectroSERVER database.

WARNING! The elements listed below do not survive model and model type conversion.

SpectroWATCHes These must be rebuilt on the new model type.

SANM Policies At publication time, these policies were not preserved with conversion. Check with your Aprisma support or sales representative for updates if you need to preserve SANM policies.

Device Model Note Attributes (ID 0x11564) Unless otherwise stated, conversion scripts do not preserve device model note attributes. Prior to conversion, save the contents of any attributes for population into the new models.

Device Model Submodel Note Attributes (ID 0x11564) A device model's submodel (i.e., application and interface models) notes are not preserved. Prior to model conversion, save the contents of any attributes for population into the new models.

Figure 2: Attributes Preserved With Scripts

Model Type Attributes Preserved When Script Below Is Run:	Mod_Name 0x1006	Net_Addr 0x1027f	Community 0x10024	Security_Str 0x10009	Notes 0x11564	Polling 0x10071	Poll_Log_Ra 0x10072	Poll_Status 0x1154f	Time_Out 0x110c4	Try_Count 0x110c5	Val_when_Yellow 0x1000c	Val_when_Oran 0x0000d	Val_when_Red 0x1000e	Preserve Relations	Adv. Notes	Disc. Apps	Disc. Interface
Mdl_dep_60R1_script.pl	x	x	x	x	x	x	x	x	x	x				x		x	x
Convert_from_SSR	x	x	x	x	x	x	x	x	x	x				x		x	x
host_conversion.pl	x	x	x	x										x		x	x
Convert_to_SSX	x	x	x	x	x	x	x	x	x	x				x		x	x
ZnetConversion	x	x	x											x		x	x
JuniperConversion	x	x	x											x		x	x
Reconfigure_Catalyst	x	x	x											x		x	x
Psp2Accelerator.doc	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
DocsisCml_migration.pl																	
Rem_EnetApp_Mdlis.sh																	
Templates for Management Module Upgrades																	
CPOdep template																	
EmpDep template																	
Ntlwf_dep template	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
NortelShasta	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
DocsisDep Template																	

Upgrading Model Types and Models From SPECTRUM 5.0.1

This section contains the procedure for upgrading your SPECTRUM models if you are upgrading from SPECTRUM 5.0.1. Several management modules were deprecated since this SPECTRUM version. In addition, see [Postinstallation Scripts and Templates \[page 85\]](#) for additional scripts you must run to upgrade to the latest SPECTRUM version.

MM_dep_50R1_script.pl

The `MM_dep_50R1_script.pl` script identifies and converts old models. The script creates a `db_conv_template` file, using the old model type as old MT and using `GnSNMPDev` as the new MT. It then calls `DBconv`, using the `db_conv_template` as a parameter. `DBconv` finds all old MT models, reads the attributes listed in the `db_conv_template` file (including `Model_Name`, `Network_Address`, `Community_Name`, `Security_String`, and `Polling_Interval`) for each model, copying those values to the `GnSNMPDev`-based model.

`DBconv` then reads the relations that the model is in and sets the same relations for the new `GnSNMPDev` model. It then destroys the old model and continues to the next model. The `MM_dep_50R1_script.pl` routine also includes provisions for any Kentrux and LANPlex models found on the system, directly converting them from older models to newer models.

Procedure

1. Start the SpectroSERVER.
2. Navigate to:

```
<$SPECROOT>/SS-Tools/MM_Dep_50R1
```
3. Run the following command:

```
MM_dep_50R1_script.pl <SpectroSERVER host> <landscape handle>
```
4. After the script runs, check the `Dep_Log_50R1_<DATE>_<TIME>` file to see if all models converted.

If a model was not in contact when the script was running, it will not be converted. Ensure that the devices are active on the system and repeat [step 3](#) and [step 4](#) until you have confirmed that all models are converted. If a `WARNING.txt` file exists, a model did not convert because of its contact status, and unconverted models are identified in this file. If any model still has not converted after repeating this

procedure, delete that model and manually create it as a new GnSNMPDev model or the appropriate LANPlex or Kentrux model type.

Troubleshooting

If the MT_dep_50R1_script.pl script does not run:

1. Make sure you are logged in as a valid SPECTRUM user.
2. Navigate to:

```
<$SPECROOT>/vnmsh
```

3. Run the following command:

```
./connect <SpectroSERVER host>
```

4. Run the following command:

```
./disconnect <SpectroSERVER host>
```

You may have to perform this procedure more than once.

Note: For more information on running the deprecation script, see the README file in the <\$SPECROOT>/SS-Tools/MM_Dep_50R1 directory.

Convert_to_SSX.script

Convert_to_SSX.script converts models listed in [Table 2](#), using the procedure that follows.

Table 2: Models Converted by Convert_to_SSX.script

Old Model Type	New Model Type	Supports
Gen9000	9E5xx (model type handle 0x3860001)	Cabletron SmartSwitch 9000 devices with the 9E5xx model type: 9E531-24
Gen9000	9G5xx (model type handle 0x3860003)	Cabletron SmartSwitch 9000 devices with the 9G5xx model type: 9G536-04
Gen9000	9H5xx (model type handle 0x3860002)	Cabletron SmartSwitch 9000 devices with the 9H5xx model type: 99H532-18, 9H531-18, 9H539-18, 9H532-17, 9H531-17, 9H539-17, 9H532-24, 9H531-24, 9H539-24, 9H533-24

Procedure

1. Start the SpectroSERVER.

2. Navigate to:

```
<$SPECROOT>/SS-Tools/Convert_to_SSX
```

3. Run the following command:

```
Convert_to_SSX.script <SpectroSERVER host> <landscape handle>
```

The `-gnsnmpdev` flag can be added to the end of this command to convert both Gen9000 and GnSNMPDev models. Only models of 9x5xx devices are converted; other Gen9000 and GnSNMPDev models are not converted.

4. After the script runs, check the `Conv_SSX_Log_<DATE>_<TIME>` file to see if all models converted.

If a model was not in contact when the script was running, it will not be converted. Ensure that the devices are active on the system and repeat [step 3](#) and [step 4](#) until you have confirmed that all models are converted.

Troubleshooting

If `Convert_to_SSX.script` does not run:

1. Ensure that you are a valid SPECTRUM user.
2. Navigate to:

```
<$SPECROOT>/vnmsh
```

3. Run the following command:

```
./connect <SpectroSERVER host>
```

4. Run the following command:

```
./disconnect <SpectroSERVER host>
```

MT_del_50R1_script.pl

The `MT_del_50R1_script.pl` script uses the `db_remove` utility to delete deprecated model types from the SpectroSERVER database, ensuring that a user will not inadvertently create a new model based on a deprecated model type.

Procedure

1. When you have determined that all models have converted, stop the SpectroSERVER.
2. Run the `MT_del_50R1_script.pl` script, using a logon identity that has permissions to delete database entries, files, and directories in the SPECTRUM installation directory (`<$SPECROOT>`).

Removing Discontinued Ethernet Application Models and Model Types

The section contains the procedure for removing the discontinued models and model types listed in [Table 3](#), using the procedure that follows.

Table 3: Discontinued Ethernet Application Models and Model Types

Name	Script	Details
FastEnetApp	Rem_EnetApp_Mdls.sh	This application is no longer supported by SPECTRUM, and the model types for this application have been removed from the current release.
EnetControlApp	Rem_EnetApp_Mdls.sh	This application is no longer supported by SPECTRUM, and the model types for this application have been removed from the current release.

Rem_EnetApp_Mdls.sh

Procedure

1. Start the SpectroSERVER.
2. Navigate to:
`<$SPECROOT>/SS-Tools/Remove_EnetApps`
3. Run the following command:
`Rem_EnetApp_Mdls.sh <SpectroSERVER Host> <landscape handle>`

4. Check the `Rem_Mdls_Log_<DATE>_<TIME>` file to confirm that all of the FastEnetApp and EnetControlApp models were successfully removed.

If a model was not in contact when the script was running, it will not be removed. Ensure that the devices are active on the system and repeat [step 3](#) and [step 4](#) until you have confirmed that all models are removed.

Troubleshooting

If the `Rem_EnetApp_Mdls.sh` script does not run:

1. Ensure that you are a valid SPECTRUM user.
2. Navigate to:

```
<$SPECROOT>/vnmsh
```

3. Run the following command:

```
./connect <SpectroSERVER host>
```

4. Run the following command:

```
./disconnect <SpectroSERVER host>
```

Removing the Discontinued Model Types

After the discontinued models have been removed, you must remove the discontinued model types from your database. A file in the directory `SS-Tools/Remove_EnetApps` contains a white-space-separated list of model type handles that have been discontinued.

Procedure

1. Stop the SpectroSERVER.
2. Navigate to:

```
<$SPECROOT>/SS
```

3. Run the following command:

```
../SS-Tools/db_remove ../SS-Tools/  
Remove_EnetApps/obsmdltylist.txt
```

You can also run the above command with the debug flag turned on, as follows:

```
../SS-Tools/db_remove -debug  
../SS-Tools/Remove_EnetApps/obsmdltylist.txt
```

Upgrading Host Models and Model Types

The section contains the procedure for converting the host model types listed in [Table 4](#) to new model types as part of your SPECTRUM upgrade. The table shows model conversion data for old host model types and the new converted host model types.

Table 4: Host Model Type Conversions

Old Host Model Type	New Host Model Type
SM-GH01000: Host_NT, Host_HP, Host_SGI, Host_IBM, Host_DEC, Host_Sun, and GenericHost model types.	New Host_Device model type (model type handle 0x1160089) The following attributes are preserved from the original host model and populated into the newly created model: 0x001006e (model name) 0x00010024 (community string) 0x0001027f (network address) 0x00011564 (notes)
SM-SUN1000: Sun workstations that support Sun Management Center agent—Host_Device, GnsNMPDev (if the optional command flag is used (see host_conversion.pl [page 95]), and Host_Sun (model type handle 0x1160002).	New Host_Sun model type (model type handle 0x116008c)
SM-EMP1000: Host_NT and Host_Sun model types that support the Empire_UnixApp, Empire_NTApp, and Empire_ExtApp Empire agents.	New Host_Empire model type (model type handle 0x1160088)
SM-DEL1000: Dell workstations that support the Dell Open Manage agent—Host_NT and GenericHost model types.	New Host_Dell model type (model type handle 0x1160097)

host_conversion.pl

Procedure

1. Start the SpectroSERVER.
2. Navigate to:
SS-Tools/Convert_to_Host
3. Run the following command:

```
host_conversion.pl <SpectroSERVER host>  
                <landscape handle> [gnsnmpdev]
```

Note: If you run the script with the gnsnmpdev flag, it will also convert any workstations modeled as a GnsnmpDev. It may take a few minutes for the script to run.

4. Check the Conv_HOST_Log_<DATE>_<TIME> file to confirm that all models and model types have been converted.

If a model was not in contact when the script was running, it will not be converted. Ensure that the devices are active on the system and repeat [step 3](#) and [step 4](#) until you have confirmed that all models are converted.

Troubleshooting

If the host_conversion.pl script does not run:

1. Ensure that you are a valid SPECTRUM user.
2. Navigate to:
<\$SPECROOT>/vnmsh
3. Run the following command:
./connect <SpectroSERVER host>
4. Run the following command:

```
./disconnect <SpectroSERVER host>
```

Removing the Discontinued Model Types

After the older model types have been converted, you must remove the older model types from your database. A file in the directory SS-Tools/Convert_to_Host contains a white-space-separated list of model type handles that have been discontinued.

Procedure

1. Stop the SpectroSERVER.

2. Navigate to:

```
<$SPECROOT>/SS
```

3. Run the following command:

```
../SS-Tools/db_remove ../SS-Tools/  
Convert_to_Host/obsmodellist.txt
```

You can also run the above command with the debug flag turned on, as follows:

```
../SS-Tools/db_remove -debug  
../SS-Tools/Convert_to_Host/obsmodellist.txt
```

Upgrading Nortel Accelar Models and Model Types

The section contains the procedure for upgrading the models and model types listed in [Table 5](#), using the procedure that follows.

Table 5: Nortel Accelar Upgrade

Old Model Type	New Model Type	Template
PassportDev (model type handle 0x2ec0005)	Accelar1200 (model type handle 0x2ec0002)	Psp2Accelar.dbc

Note: You can use Search Manager to determine if you have models that meet this criteria. Create a search where the model type name equals "PassportDev" and device type attribute equals "Accelar."

Procedure

1. Start the SpectroSERVER.
2. Navigate to:
`<$SPECROOT>/SS-Tools/Nortel`
3. For a single landscape, run the following command:
`<$SPECROOT>/SSTools/DBconv -landscape=<landscape handle>
-file=Psp2Accelar.dbc`
4. For a multiple landscapes, run the following command:
`<$SPECROOT>/SSTools/DBconv -all_landscapes
-file=Psp2Accelar.dbc`

Upgrading Generic Cable Modem Models and Model Types

The section contains the procedure for upgrading the models and model types listed in [Table 6](#), using the procedure that follows.

Table 6: Generic Cable Modem Upgrade

Old Model Type	New Model Type	Script	Details
GnCableModem	DocsisCM	DocsisCM_migration.pl	The new model type retains the same model type handle, so information about that model is retained in the upgrade.

Procedure

1. Start the SpectroSERVER.
2. Navigate to:
`<$SPECROOT>/SS-Tools/deprecation`
3. Run the following command:
`./DocsisCM_migration.pl`

Upgrading Juniper Router Models and Model Types

The section contains the procedure for upgrading the models and model types listed in [Table 7](#), using the procedure that follows.

Table 7: Juniper Router Upgrade

Old Model Type	New Model Type	Script	Details
JNPR_Mxxx	JnprRedundRtr	juniperConv.pl	Improved redundancy components for the M20, M40e, and M160 devices.

Procedure

1. Start the SpectroSERVER.
2. Navigate to:
`<$SPECROOT>/SS-Tools/juniperConversion`
3. Run the following command:
`juniperConv.pl`
4. At the prompt, enter the landscape handle (in hexadecimal format) and the SpectroSERVER host name.

The script continues to run until the conversion process is complete.
5. Open `juniperLog.txt` to see a list of converted models.

Upgrading Management Modules

Use [Table 8](#) to determine the script and template combination to run to upgrade the SPECTRUM management modules listed; then complete the procedure—or individual steps—that follow.

Table 8: Scripts and Templates for Upgrading Management Modules

For this management module:	Use this template:	With these scripts:
SM-WEL1003	Ntlwf_dep_template	MM_Model_Migration.pl MM_MType_Deletion.pl MM_rediscovery.pl
SM-CSI1097	DocsisDepTemplate	MM_MType_Deletion.pl MM_rediscovery.pl
SM-NTL1001	NortelShasta	MM_Model_Migration.pl MM_MType_Deletion.pl MM_rediscovery.pl
SM-CPQ1000	CPQdepTemplate	MM_Model_Migration.pl
SM-EMP1000	EmpDepTemplate	MM_Model_Migration.pl

Procedure

1. Start the SpectroSERVER and navigate to:
`<$SPECROOT>/SS-Tools/deprecation`
2. Run the following command using a logon identity that has permissions to delete database entries, files, and directories in the SPECTRUM installation directory (`<$SPECROOT>`):
`MM_Model_Migration.pl <SpectroSERVER host> <landscape handle>
<template file name>`
3. Stop the SpectroSERVER and run the following command:
`MM_MType_Deletion.pl <SpectroSERVER host> <landscape handle>
<template file name>`
4. Start the SpectroSERVER and run the following command:
`MM_rediscovery.pl <SpectroSERVER host> <landscape handle>
<template file name>`

Troubleshooting

If one of the scripts fails:

1. Ensure that you are running the scripts in the order presented in the procedure.
2. Ensure that the SpectroSERVER is running or stopped, as indicated in the procedure.
3. Ensure that the database is not locked by another process.

Troubleshooting

This section describes error messages and problems you may encounter when using the SPECTRUM installation software. Possible causes and solutions are provided wherever possible.

Error:

On Solaris systems, the screen displays inverted text, partially missing text, or other improper elements.

Solution: Make sure you are using the latest drivers for your video card.

Error Message:

You must have the correct privileges to run Install. On a Unix system, you must be root. On a Windows NT, you must be Administrator. Exiting installation. Installation Phase: Initializing

Cause: On Windows systems, this message indicates that the person has not logged on as a member of the Administrators group.

On Solaris, it indicates that you have not provided the correct root password during installation.

Solution: Make sure you log in as a member of the Administrators group during Windows installations, or provide the correct root password during Solaris installations.

Error Message:

Error: <index file name> not found!

Installation Phase: Initializing

Cause: Incomplete extraction of Install (first) record from the distribution medium, or improper removal or modification of the Install record files extracted from the medium prior to installation.

Solution: Retry installation. If failure persists, contact your Aprisma support or sales representative.

Error Message:

```
- - - - - TRACEBACK - - - - -  
Module "X      " Message 2: file "err.c      " line 438  
Module "Dsply" Message 0: file "./xdsply.c" line 102  
Module "Err  " Message -1: file "err.c      " line 1456  
- - - - -
```

ERROR Cannot open display "(null)" while Initializing windowing environment

EXITING cannot recover from error

Installation Phase:

Initializing

Cause: Your DISPLAY environment variable is not set to the host name of the workstation on which you are running the installation software.

Solution: Set the DISPLAY environment variable as described in [Setting the Solaris Display Environment \[page 111\]](#).

Error Message:

** Error during Database Initialization

Installation Phase:

DBImporting

Cause: The installation is unable to create the SpectroSERVER database.

Solution: This is a serious problem. Contact your Aprisma support or sales representative.

Error Message:

** Error during Set Landscape Handle

Installation Phase:

DBImporting

Cause: Install is unable to set the SpectroSERVER landscape handle value.

Solution: This is a serious problem. Contact your Aprisma support or sales representative.

Error Message:

** Error during Database save as db_<extension>

Installation Phase:

DBImporting

Cause: Installation software is unable to save the existing SS database, most likely because the SS database is write-protected or does not exist (was deleted).

Solution: Use the chmod utility to make the SS database writable, and reinstall. If this does not work, contact your Aprisma support or sales representative.

Error Message:

** Error during Import of <MM names>

Installation Phase:

DBImporting

Cause: Install is unable to import an SS database import file into the SS database. There are two likely reasons for this: either the SS database does not contain a Model Type required by the SS database import file, or the SS database has become corrupted.

Solution: This is a serious problem. Contact your Aprisma support or sales representative.

Error Message:

** Error during Link of SpectroSERVER

** Error during Link of SpectroGRAPH

** Error during Patch of SpectroSERVER

** Error during Patch of SpectroGRAPH

** Error during chmod u+s of SpectroSERVER

** Error during Incremental link of Icon Objects

** Error during Incremental link of View Objects

** Error during Incremental link of SG Objects

** Error during Incremental link of Icon Objects

** Error during Incremental link of View Objects

Installation Phase:

LinkingSS or LinkingSG

Cause: These and similar messages during linking are caused by failure of on-site linking of a product executable. Often, these messages are preceded by output of various link utilities, for example:

```
ld: SS.o: No such file or directory
ld: : output write error: Bad file number
nm: SpectroSERVER: cannot open
```

The exact format and nature of these errors may vary somewhat between platforms. There are several causes of link errors, including:

- Failure to install all MMs needed to properly link a product executable. Currently, install does not manage link dependencies between MMs, and may not warn you if you attempt to install an MM without installing a second MM on which it depends for proper linking of a product executable. In such cases, you will observe link errors, typically accompanied by a list of undefined symbols.
- Failure of link utilities. This most often happens because of lack of space in the installation area, but can occur for other reasons.
- Missing MMs or files on the medium. If you are installing a patch, it may not contain enough SPECTRUM MMs to successfully link product executables. Patches are intended for installation into previously existing SPECTRUM install areas.

Solution: •Install all MMs required for proper linking of product executables.

- Do not install on a heavily-loaded or space-bound system (the Install GUI will warn you if it feels there is not enough space to complete installation). Do not tamper with the installation area during installation.
- If the above measures do not work, contact your Aprisma support or sales representative.

Error Message:

```
** Error during Processing of vnmrc file
```

```
Installation Phase:
```

```
ValidatingSS
```

Cause: Install is unable to properly set values in the SpectroSERVER defaults file SS/.vnmrc.

Solution: Cannot be handled at installation site. Contact your Aprisma support or sales representative.

Uninstalling SPECTRUM

You should uninstall SPECTRUM when you are migrating from one machine to another; or when removing SPECTRUM from your network environment.

You should *not* uninstall SPECTRUM when upgrading in place.

In this section:

[Uninstalling SPECTRUM 6.5.1 on Solaris \[page 106\]](#)

[Uninstalling SPECTRUM 6.5.1 on Windows \[page 107\]](#)

Uninstalling SPECTRUM 6.5.1 on Solaris

The uninstall program deletes *everything* in the directory tree, regardless of file permissions.

Prerequisites

Stop all processes (for example, Alarm Manager, Event Log).

Procedure

4. Go to <specroot>/Install-Tools.
5. Type: ./uninstall
6. Select y (yes) when prompted to confirm uninstall action.
7. Once the uninstall operation is complete, log out and log back in to update the desktop icons.

Uninstalling SPECTRUM 6.5.1 on Windows

The uninstall program deletes *everything* in the directory tree, regardless of file permissions.

Prerequisites

Stop all processes (for example, Alarm Manager, Event Log).

Procedure

1. Go to **Start > Settings > Control Panel**.
2. Double-click **Add/Remove Programs**.
3. Select **SPECTRUM 6.5.1.0**; then click the **Change/Remove** button (Windows 2000) or **Add/Remove** button (Windows NT).
4. The SPECTRUM Uninstall screen displays. Select the components of SPECTRUM to uninstall.

The default is for all components to be selected. If Hummingbird Exceed was not installed as part of the SPECTRUM installation and it is used by other installed applications, deselect it in the component list.

5. Click **Start**.
6. Click **Yes** to confirm the uninstall operation; click **No** to abort the operation.

If a file cannot be deleted during the uninstall operation, a pop-up message prompts you to retry or cancel the action.

Note: Also, as each component is removed, a screen may display to confirm the action, and another screen may display to show the results of the action. In each case, click **OK** to continue the uninstall operation.

Also, the Details window for SPECTRUM Runtime Environment shows four messages that look like errors (for example, "Unable to delete folder <path>." These messages are not errors.

7. To uninstall Hummingbird Exceed, click **Next**.
8. Make sure **Remove** is selected in the Program Maintenance window; then click **Next**.
9. Click **Remove**.
10. In the SPECTRUM Uninstall screen, click **Done**.

Note: The uninstalled programs still appear selectable in the Change/Remove (or Add Remove) window until the window is closed and reopened.

Appendix A

This section contains detailed information on topics referenced from other parts of this guide.

In this section:

[Using the Online Backup Utility \[page 109\]](#)

[Mounting the SPECTRUM CD \[page 109\]](#)

[Setting the Solaris Display Environment \[page 111\]](#)

[Using the DBconv Utility \[page 112\]](#)

Using the Online Backup Utility

Procedure

1. In the SPECTRUM Control Panel select **File > Save Database**.
The **Online Database Backup Configuration View** opens.
2. In the **Backup Configuration** panel, toggle **Backup Compression** to **Disabled**.
3. In the **Backup Directory** box, type a directory path to an area separate from your SPECTRUM installation directory.
4. Accept the default **Minimum Required Disk Space (MB)** value unless you think your backup file size may exceed your available disk space.
5. Select **File > Save All Changes**; then click **OK** in the confirmation dialog box.
6. Click **Begin Backup Now!**.

The **Begin Backup Now!** button label changes to **Working...**, and the **Status** line indicates your progress. When the backup operation is complete, the button label changes back to **Begin Backup Now!**.

Mounting the SPECTRUM CD

If your Solaris system has Volume Management enabled, the SPECTRUM Application CD mounts automatically.

If Volume Management is disabled, you will need to set up a CD mount-point directory and enter a mount command to access the installation software on the SPECTRUM CD. This procedure varies depending on whether the installation is **local** (the target workstation is the host for the CD drive) or **remote** (the drive is hosted by a workstation other than the target workstation). CD mounting procedures for local and remote installations are described separately in the following sections.

Installing From a Local CD Drive

If you are installing SPECTRUM on the CD drive host workstation:

1. Log in as root using the *su* - command.
2. Type *mkdir /cdrom* to create a directory for the CD mount point.
3. Insert the SPECTRUM Application CD into your CD drive.
4. Mount the CD file system by entering the following command (where *<cdrom>* is the name of the directory created in step 2 above).

```
mount -r -F hsfs /dev/sr0 /<cdrom>
```

Installing From a Remote CD Drive

If you are using a non-Solaris workstation as the CD drive host, the mount command in Step 4 and the file system export entry in Step 5 will vary. Consult the CD drive host workstation operating system documentation for the proper syntax.

To install SPECTRUM from a remote CD drive, follow these instructions:

1. Log onto the CD drive host workstation as root (superuser) using the *su* - command.
2. Create a directory for the CD mount point (e.g., type *mkdir /cdrom*).
3. Insert the SPECTRUM Application CD into the CD drive.
4. Mount the CD file system by entering the following command (where *<cdrom>* is the name of the directory created in Step 2 above):

```
mount -r -F hsfs /dev/sr0 /<cdrom>
```

5. Prepare to export the CD file system by adding the following entry to your system */etc/dfs/dfstab* file:

```
share -F nfs -o ro /cdrom/cdrom0
```

If the `dfstab` file does not already exist, you will have to create it. Add this entry, perform Step 6, and then reboot (or run `etc/rc2.d/K28nfs.server.start`) before proceeding to Step 7.)

6. Export the file system by making the following command line entry:
`exportfs -a`
7. Log onto the target workstation as root using the `su -` command.
8. Type `mkdir /cdrom` to create a directory for the CD mount point. If you are using a Solaris workstation as the drive host, enter the following command:

```
mount -r -o hard,intr <remote_name>:/cdrom/cdrom0 /cdrom
```

[Where `<remote_name>` is the hostname of the CD ROM drive workstation, the first instance of `cdrom` is the mount-point directory on the CD_ROM drive workstation, and the second instance of `cdrom` is the mount-point directory on the target workstation].

9. If you are using a non-Solaris workstation as the CD drive), type:

```
mount -r -o hard,intr <remote_name>:/cdrom /cdrom
```

Note:]Although SPECTRUM can be installed from a remote CD drive, components of SPECTRUM can not be installed on remote drives under the control of automount. When a directory is placed under the control of the automount daemon (i.e.; an entry is placed in one of the `/etc/auto_*` files), subdirectories can not be created in that mount point.

Setting the Solaris Display Environment

Follow these instructions to set up the Solaris display for SPECTRUM:

1. If you want to display the installation GUI on a workstation other than the target workstation, enter the following command from the display workstation, specifying the hostname of the target workstation.

```
/usr/openwin/bin/xhost +<hostname>
```

2. Set the **DISPLAY** variable to the hostname of the target workstation. Use the `echo $DISPLAY` command to determine whether this setting

is in effect on your workstation. If it is not, set the variable by entering one of the following commands:

From the C shell: `setenv DISPLAY <hostname>:0`

From the Bourne or Korn shells: `DISPLAY=<hostname>:0 ; export DISPLAY`

Using the DBconv Utility

SPECTRUM provides a DBconv utility that converts a set of models in the SPECTRUM database from one model type to another. You can also use DBconv to rediscover applications and to reconfigure the interfaces in a set of models.

DBconv is provided with a resource file for each of the management modules, supporting both old and new model types. The resource files are named according to the convention <abbreviated model type name>.

Use the **SpectroGRAPH New Model** selection option under the **Edit** menu to determine which model types exist in your database. Then perform the following procedure for each model type to be converted:

1. Ensure that SpectroSERVER is running and that SpectroGRAPH is not running.
2. Open the appropriate resource file with your preferred text editor. The resource file lists the model type handles for the old model types, immediately followed by a list of the new model type handles for the model types included in the management module.

Change the value of the old model type handle (old_mtype) and the value of the new model type handle (new_mtype) for the individual model type you wish to convert.

3. If you changed the landscape handle from its default value of 0x400000, you must remove the comment symbol (#) from the beginning of the #landscape_handle line and change the value of your landscape handle accordingly. With the comment symbol in place, DBConv will automatically use the 0x400000 default value to contact SpectroSERVER.
4. Navigate to the #right_rel_to_ignore and #left_rel_to_ignore lines and see if a comment symbol (#) exists at the beginning of each line. If so, remove the comment symbol in each case.

If you wish to convert only a subset of the models present, you can remove the comment symbol from the `#models_to_convert` line and enter a specific number of models to be converted. This action will cause the DBConv utility to selectively convert the number of models you specify from among those present in your database. Leaving the line commented (with the `#` in place) will convert all models of the specified type with which SpectroSERVER has established contact.

5. Save your changes and exit the resource file.
6. Run DBconv, specifying which SpectroSERVER to connect to and also the resource file for the model type to be converted. It is a good idea to first migrate to the SS directory. From the SS directory, type the following entry, including SS-Tools in the path, all on one line:

```
../SS-Tools/DBconv <name of vnm host>
```

```
rc.<abbreviated model type name>
```

For example,

```
../SS-Tools/DBconv monarch ../SS-Tools/rc.cisco
```

The program will proceed through a short initial phase and a longer second phase, noting in the window which phase is in effect. Models that have not been contacted will not be converted; in each case, an error message will be displayed. Here are some possible causes of these error messages:

- Specified Model Types do not exist in the database.
 - SpectroSERVER is not responding.
 - SpectroSERVER does not have a model for your user-id.
7. Repeat steps 1 through 6 of this procedure for each model type that needs to be converted. After verifying the success of the conversion, save your SPECTRUM database

Note: Archive or remove any database savefiles left from SPECTRUM 5.0.1. They can no longer be used to recover a database under the new release. Attempting to restore a SPECTRUM 6.x.x database with a 5.0.1 database savefile will render the existing 6.x.x database unusable.

After you have installed the new SPECTRUM version and run the DBconv program to delete all old model types, the system expects new model types only. If you later create a model using one of the old model types

(e.g., Rtr_cisco_IGS instead of Rtr_CiscoIGS), the system will generate an **Event00010644 model mismatch** alarm.

The DBconv utility can take its configuration from two places:

- A file that is specified on the command line
- Directly from the command line itself.

Options entered via the command line will override corresponding options specified in the configuration file. To get a list of available command line options, run DBconv with no option listed. For further details on DBconv functions, see the DBconv.html file in the SS-Tools directory.

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